S. Hrg. 98-1102

# DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

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## HEARING

BEFORE THE

## COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

ON

## S. 2748

TO AMEND THE FEDERAL FOOD, DRUG, AND COSMETIC ACT TO REVISE THE PROCEDURES FOR NEW DRUG APPLICATIONS AND TO AMEND TITLE 35, UNITED STATES CODE, TO AUTHORIZE THE EXTENSION OF THE PATENTS FOR CERTAIN REGULATED PRODUCTS, AND FOR OTHER PURPOSES

JUNE 28, 1984

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# DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

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THURSDAY, JUNE 28, 1984

U.S. SENATE,
COMMITTEE ON LABOR AND HUMAN RESOURCES,
*Washington, DC.*

The committee met, pursuant to notice, at 9:40 a.m., in room 430, Dirksen Senate Office Building, Senator Orrin Hatch (chairman of the committee) presiding.

Present: Senators Hatch, Quayle, Nickles, Denton, and Hawkins.

## OPENING STATEMENT OF SENATOR HATCH

The CHAIRMAN. It is my pleasure this morning to convene a hearing of the Labor and Human Resources Committee on two important and far-reaching bills: The Drug Price Competition and Patent Term Restoration Act of 1984, and the Pharmaceutical Export Reform Act.

Both of these bills have been carefully crafted to address important policy issues in the pharmaceutical field, and I want to say up front that I support both of them. As they are submitted to scrutiny in congressional hearings and in continuing negotiations, I am sure we will identify points where improvements can be made, and the committee welcomes suggestions in that regard. This hearing is an expression of my own determination that differing points of view on these bills should receive an open hearing.

S. 2748, the Drug Price Competition and Patent Term Restoration Act of 1984 is the response to dual problems our country has experienced in the pharmaceutical field. First, our people are paying too much for drugs whose patents have expired. Second, the domestic drug industry is gradually losing its once-unchallenged prominence in pharmaceutical innovation to European and Japanese firms.

This bill addresses both problems by striking a balance among the varying interests of research drug firms, generic firms, and consumers. On the one hand, lower drug prices—tens of millions of dollars a year in total savings—will flow from increased generic competition made possible by a new abbreviated new drug application which we will refer to as ANDA, for off-patent drugs approved after 1962. The FDA currently has an ANDA practice for pre-1962 drugs. This bill extends that practice to post-1962 drugs. No longer will generic competitors have to duplicate the same safety and effectiveness data which has already been received and approved by the FDA from other sources. On the other hand, the number of beneficial new drugs, and consequently our national leadership in this field, will increase as research and development expenditures increase.

The added research and development will flow from added patent protection which will compensate the research drug companies for the years of exclusive marketing time under their patents lost because of the lengthy FDA testing and review period.

The bill truly promises us less costly drugs today and better drugs tomorrow.

The Pharmaceutical Export Reform Act has also been many months in development. It has been widely circulated in draft form. The bill addresses the present total prohibition on the export of non-antibiotic pharmaceuticals which have not been approved by the Food and Drug Administration for use in this country. The effect of this prohibition is not to ban pharmaceuticals from foreign markets. All a domestic company needs to do to serve such a market with an unapproved drug is to move its production plant overseas. Rather, its effect is to needlessly deprive the American economy of plants, jobs, and tax revenues which are channeled to foreign countries.

Further, our current policy makes no allowance for the many legitimate reasons that a drug may be properly marketable overseas while not approved here.

Among these are the fact that the FDA review and approval is slower than that of other developed nations' agencies. As witnesses will testify today, if Great Britain approves a drug a year before our FDA, the U.S. market will be served from plants built overseas and the jobs do not come back from abroad. There are also diseases and conditions which plague the populations of other countries, tropical countries for example, but which are not significant problems here. In these cases a manufacturer would have no reason to apply for FDA approval for domestic use of such a drug.

Now, I am aware of the traditional concerns of those who support the present policy—concerns that allowing the export of unapproved drugs will be the same as allowing the export of dangerous and unproven drugs.

However, the Pharmaceutical Export Reform Act assures protection for those who cannot protect themselves while retaining for our economy the benefits of the legitimate pharmaceutical trade. It does this by a long series of requirements which must be met prior to export, including in most cases that an exported drug be under continuing FDA review, and that it have already been approved in at least one country possessing an adequate review agency like the FDA.

I hope that those who oppose any relaxation of drug export restrictions will examine these and other protections which we have built into the bill, will examine them fairly and will recognize the soundness of the concept. Here, again, I look forward to receiving constructive suggestions to improve the legislation.

Indeed, those who are worried about the marketing of drugs in underdeveloped countries should ask themselves, "Is it better that those drugs be subjected to essentially no controls at all, as is now the case every time a manufacturer locates a plant in a country with no FDA-like agency? Or is it better that the drug be, first, approved in a strong drug regulatory country; second, under investigation by our own FDA, which has the power to pull it off the market if it sees any particular evidence of harm, and; third, manufactured in this country where its purity and quality are assured by FDA's Good Manufacturing Practices Code?" I think the answer is clear. This bill is more protective of the health and welfare of underdeveloped countries' consumers than is the present misguided policy.

Again, however, I look forward to receiving constructive suggestions to improve both pieces of legislation as we move them through this hearing and through full Senate consideration.

I really feel very pleased today to have Senator Hawkins and Senator Nickles with us today, and we will turn now to Senator Hawkins for any statement she has, and then Senator Denton.

## STATEMENT OF HON. PAULA HAWKINS, A U.S. SENATOR FROM THE STATE OF FLORIDA

Senator **Hawkins**. I am pleased to be here at today's hearings. The legislation before our committee today is of critical concern to the millions of Americans who are dependent upon the availability of pharmaceutical products to lengthen and improve the quality of their lives.

If the concerns regarding this legislation can be resolved—and I believe that they can be—we may be able to pull off a legislative miracle and actually pass bipartisan legislation through both Houses of Congress which would encourage the development of new, better drug products, lower prices on existing drugs, and at the same time create jobs for Americans in the pharmaceutical field.

This will not be an easy task the legislation before us today makes some dramatic changes in patent law and FDA policies. But I believe that we are very close to a compromise which would achieve these goals without compromising the public health and safety. This carefully balanced legislation would remove barriers to competition currently faced by generic drug manufacturers but also provide stimulas for U.S. pharmaceutical companies to invest in the necessary research and development for better drug products.

These legislative reforms will benefit all Americans, but because I represent a State with such a high percentage of elderly residents, I am especially interested in the outcome of this legislation because it will affect their ability and access to drug products which lengthen and improve the quality of their lives.

I am looking forward to the questions that we will have for each panel.

The **Chairman**. Thank you, Senator Hawkins.

Senator Denton.

## STATEMENT OF HON. JEREMIAH DENTON, A U.S. SENATOR FROM THE STATE OF ALABAMA

Senator **Denton**. Mr. Chairman, both your bills are important, and my statement refers principally to S. 2748, the so-called "patent term" bill.

I will have to leave. I want to congratulate you for convening this hearing and I want to mention that I have met with representatives of some of this country's largest and most respected pharmaceutical research firms, who will testify later this morning. They support the intent of your bill, but they have some concerns about the legislation as it is currently drafted. I trust that you and the committee will have the opportunity to hear those concerns and contemplate them as this bill moves through the committee process.

I will be submitting questions to the witnesses, and ask that they be responded to in writing within 2 weeks. And I ask that the entire statement be included in the record.

The **Chairman**. We will include your statement in the record, and we will keep the record open until 6 o'clock tomorrow for written questions of the members of the committee. But beyond that, if they are not in by then, then I think we will cut off any further questions. So I hope all committee members and staff people take note of that.

I also have a statement of Senator Thurmond, which he has requested be inserted in the record as well. And he has several questions which he would like answered in writing. So, without objection, we will do that.

[The prepared statement of Senator Thurmond follows:]

### Prepared Statement of Senator Thurmond

Mr. Chairman, it is a pleasure to be here this morning to receive testimony on S. 2748, the proposed "Drug Price Competition and Patent Term Restoration Act of 1984" and on proposed drug export reform legislation.

Mr. Chairman, for some time, I have believed that our patent laws have the effect of discouraging drug research and unfairly penalizing drug companies that develop new drugs. Quite often, between 7 and 10 years of the 17 year patent life of new drugs are lost to drug companies while they satisfy the statutory requirements for safety and effectiveness.

I, therefore, believe that the patent laws should be amended to allow restoration of a portion of the patent life lost to these companies on the drugs they have worked hard to develop. I am pleased to see that S. 2748 would provide for such patent restorations and I support provisions which would effect this important change.

Mr. Chairman, the proposed abbreviated new drug application provisions included in S. 2748, and the proposal to permit the exports of medicines not approved in the United States also address very important issues.

I want to welcome the distinguished witnesses who are with us today and I look forward to their testimony on all of these proposals.

The **Chairman**. Senator Nickles.

## STATEMENT OF HON. DON NICKLES, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator **Nickles**. Mr. Chairman, I have no statement but to congratulate you, one, for the hearing and also for your endurance capabilities, because I know you were working in the wee hours last night on Bildesco, and know we still face that problem.

I, unfortunately, have to be at the White House in a very short period of time, so I won't be able to participate throughout the hearing. I would appreciate some questions that I have, particularly for Dr. Novitch, to be asked in my absence.

The **Chairman**. Thank you, Senator Nickles.

We will hear this morning from four panels of distinguished witnesses. Some of the witnesses will address only one bill or the other, and some of them will address both.

Our first witness will be Dr. Mark Novitch, the Acting Commissioner of the Food and Drug Administration.

As I mentioned, Dr. Novitch, we really appreciate the work that you have been doing at FDA. You have a lot of respect from this panel. We think it is always a pleasure to hear from you, and always enlightening.

I understand you will be presenting the Administration's position on both of the bills before us today, and we will be happy to take your testimony at this time.

## STATEMENT OF MARK NOVITCH, M.D., ACTING COMMISSIONER OF FOOD AND DRUGS, FOOD AND DRUG ADMINISTRATION, PUBLIC HEALTH SERVICE, DEPARTMENT OF HEALTH AND HUMAN SERVICES, ACCOMPANIED BY THOMAS SCARLET, ESQ., CHIEF COUNSEL, FDA, AND JAMES MORRISON, DEPUTY DIRECTOR, OFFICE OF DRUG STANDARDS

Dr. Novitch. Thank you very much, Senator, Senator Hawkins and Senator Nickles.

Before I begin I would like to introduce the colleagues with me at the table. On my right is Tom Scarlet, who is FDA's Chief Counsel, and on my left is Jim Morrison, Deputy Director of the Office of Drug Standards.

Mr. Chairman, I am pleased to have this opportunity to present our views on S. 2748 and to give our support to the three concepts before this committee today: First, that there should be an abbreviated procedure for approving post-1962 drugs; that incentives for innovation among regulated products should be preserved by patent restoration; and that the export of drugs not approved in the United States should be permitted under reasonable circumstances and conditions.

Mr. Chairman, I have a detailed statement of our views for the record, and with the committee's permission, I would like to summarize it for you.

The Chairman. Without objection, we will put the full statement in the record as though delivered, and we will do the same for every other witness throughout the proceedings, so I don't have to keep saying that.

Dr. Novitch. Thank you, Mr. Chairman.

I would first like to discuss abbreviated new drug applications, or ANDA's. We have such a system for pre-1962 drugs, but none exists for post-1962 drugs. It is very much needed. By the end of next year, 160 post-1962 drugs will be off patent. Six of them are among the top 10 selling drugs in this country. By 1990 the off patent number will be over 200.

Under current procedures, a generic manufacturer must submit literally the same data as originally developed by the pioneer, either from the open literature or from its own research, and FDA must act as though the generic drug is really new and that we haven't seen those data before. Each subsequent manufacturer must do the same thing, and we, in turn, must go through the same process.

Until recent years most post-1962 drugs were still on patent, and this awkward approach presented mainly an academic problem. Clearly, now, the situation has changed, and our procedures must also change.

The present system is wasteful, both of skilled research resources and of scarce FDA review time and people, and it is clearly anti-competitive. Moreover, any needless duplication of research raises ethical questions.

S. 2748 is a carefully balanced effort to redress the problems I have described, and it is the product of remarkable effort and negotiation.

Mr. Chairman, you and your cosponsors deserve enormous credit for your concern and for your dedicated efforts to reach an equitable solution.

We would like to suggest several technical modifications which, if adopted, would in our judgment assure that the new system is not only soundly conceived and fair, but also manageable and workable.

First, S. 2748 would immediately open to ANDA eligibility all drugs initially approved from 1962 through 1982 that are off patent. In the first 6 months we believe that we could receive up to 900 applications and some 400 more in the next 6 months, and thousands more would arrive in the next several years.

Mr. Chairman, we are doing the groundwork to prepare for this anticipated increase in ANDA's, and I can assure you that we will organize ourselves in the most effective way to implement this legislation if it is enacted.

But despite these efforts, serious backlogs would occur, at least initially, under S. 2748. To remedy this situation, we recommend that the bill establish an orderly phasein of eligibility for ANDA's. One possibility is to begin with drugs in the order of their initial approval. Another is to begin with drugs that represent the greatest prescribing volume. In any event, we would aim to open the process to all eligible drugs in the shortest possible time, and we would be pleased to work with the committee to achieve an equitable and workable procedure.

Second, we recommend deletion of provisions in S. 2748 that would appear to permit ANDA's for new combination drugs. I know the House bill has just been improved in this respect, but we still believe that as a rule ANDA's should be limited to drugs which have the same active ingredients as the pioneer drugs. There may be rare instances in which the public interest is served by permitting ANDA's for combinations which have not been previously approved, but overall we believe it is not in the public interest to encourage the proliferation of new combinations without adequate clinical testing for safety and effectiveness. And again, Mr. Chairman, we would be pleased to work with the committee to develop a procedure to approve new combinations in those limited circumstances where public health and scientific consideration make such approvals appropriate.

Third, S. 2748 would provide patent restoration for new veterinary drugs, but would not authorize an ANDA procedure for generic versions of those products. We believe that veterinary drugs should be included. A post-1962 abbreviated new animal drug application policy would essentially eliminate the need to reprove that which has already been established and, as in human drugs, would increase the availability of lower priced generic animal drug products. To livestock producers and veterinarians, that in turn could yield savings in the cost of food and in veterinary care for domestic animals.

With that, Mr. Chairman, I would like to turn to title II of the bill, patent restoration. As with the ANDA portion of S. 2748, we believe the patent restoration provisions in the bill reflect a major step toward equitable legislation in this area. We do have some concerns, however, about the impact that this legislation would have on FDA operations.

The bill would require an applicant for patent extension to submit to the Commissioner of Patents a brief description of the applicant's activities and certain milestones during the premarket regulatory review period. The Commissioner of Patents, in turn, would send this information to the Secretary of Health and Human Services, who would be required, within 30 days, to determine the applicable regulatory review period.

Having to determine the regulatory review period for each product would create a needless burden for FDA because we would have to store and retrieve and manage information which would otherwise be of little value to us or to the public as a whole. We believe this burden could be eliminated by requiring the applicant, rather than FDA, to determine the relevant regulatory review period in its application to the Commissioner of Patents. The formula for doing so and all of the relevant information would be very well known to the applicant. The applications could be made available to the FDA for inspection or audit at FDA's discretion, just as other reports to the Government, such as income tax filings, are now regulated.

The regulatory review period could be adequately determined and validated through a submission by the application and, as I have said, a discretionary review by FDA.

Our second concern has to do with the determination in the bill of "due diligence." S. 2748 would require the Secretary to determine whether an applicant acted with due diligence during the regulatory review period if the patent extension is challenged. If the Secretary were to find that the applicant did not act with due diligence for some period of that time, the amount of patent extension could be reduced.

"Due diligence" is intended to make the patent restoration as fair as possible by disallowing time during which the development of a product was not vigorously pursued. But we believe the overwhelming majority of applicants would be entitled to the 5-year maximum allowable patent restoration in S. 2748. The regulatory review period will generally justify the full extension period despite maximal efforts, both by the applicant and by the FDA, to assure prompt evaluation of the applications.

Nonetheless, under the bill as written, FDA would be required to promulgate regulations, review petitions, prepare due diligence determinations, and conduct hearings. As a practical matter, it appears that a complex system would be established that would require FDA resources to implement and maintain for really no net public benefit. And we therefore strongly urge that this feature of the bill be deleted.

That concludes my remarks, Mr. Chairman, on S. 2748.

I would now like to briefly discuss the third subject you asked us to discuss this morning, the export of approved new drugs.

As you know, current law allows the export of unapproved new drugs only for limited investigational use. Amendments have been considered in the past to change that policy. For example, the proposed Drug Regulation Reform Act of 1978 would have allowed the export of unapproved drugs under certain conditions. That initiative was similar to a provision that is already incorporated in our law that authorizes the export of unapproved medical devices. We believe that provision contains adequate public health safeguards, and our experience with the export of devices has been quite satisfactory. We are now processing close to 300 export requests a year, and under current law these devices may be exported if, first, they accord to the specifications of the foreign purchaser, are not in conflict of the laws of the country to which they are intended for export, are labeled on the outside of the shipping package that they are intended for export, are not sold or offered for sale in domestic commerce, and, five, if the Secretary or the Department of Health and Human Services determines that their export would not be contrary to the public health and safety, and, finally, that their export has the approval of the country to which they are intending to export.

The most important public health safeguards in the current medical device provision are the last two I mentioned, namely, concern over public health and safety and the approval of the importing country. We believe that the governments of other nations are the proper authorities to address their own health needs, the diseases and health-related characteristics of their populations, the nature of their health care delivery systems, the availability of treatment alternatives, and all of the many other factors that go into these risk/benefit decisions. We support and would continue to support international efforts to assure that all nations have access to information and to assist in those risk/benefit determinations. In my detailed statement I have described our efforts to join other countries in the sharing of that information.

But with that, let me turn to the draft legislative proposal at hand. We support its intent, and we especially support the reliance placed on requiring assurance from the importing government—at least in the case of many countries—that the drug may be lawfully used in that country. As noted above, this has proved to be quite workable in the export of unapproved medical devices. But there is one aspect of the draft bill that does cause us some concern.

We understand the objectives of the draft's requirement that we establish a list of foreign countries with adequate regulatory systems in place to approve drugs. While such a list could be developed, we believe that for us to sit in judgment of our sister regulatory agencies around the world would place us in a very difficult diplomatic position of publicly assessing the suitability of public health safeguards in other countries.

We believe those governments are in the best position to assess their own health needs.

Mr. Chairman, the system devised by the Congress to authorize the export of unapproved devices, the key elements of which I described a moment ago, is sound and efficient and deserves the committee's consideration.

In my statement I have described a few other technical concerns about the draft legislation, which we would be happy to discuss with you and your staff.

In closing, Mr. Chairman, let me emphasize that we support the concepts embodied in S. 2748, and we are at your service to further define and resolve the technical issues noted in my prepared statement, and also to help develop legislation that would lead to the export of useful products and could contribute to the health needs of other nations.

Mr. Chairman, that concludes my prepared statement, and my colleagues and I would be glad to answer any questions that you and other members of the committee may have.

The CHAIRMAN. Thank you, Dr. Novitch.

[The prepared statement of Dr. Novitch follows:]

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Food and Drug Administration
Rockville MD 20857

STATEMENT

BY

MARK NOVITCH, M.D.

ACTING COMMISSIONER OF FOOD AND DRUGS

FOOD AND DRUG ADMINISTRATION

PUBLIC HEALTH SERVICE

DEPARTMENT OF HEALTH AND HUMAN SERVICES

BEFORE THE

COMMITTEE ON LABOR AND HUMAN RESOURCES

UNITED STATES SENATE

JUNE 28, 1984

FOR RELEASE ONLY UPON DELIVERY

Mr. Chairman:

I am pleased to have this opportunity to discuss our views on S. 2748, the "Drug Price Competition and Patent Term Restoration Act," and on draft legislation on the export of unapproved drugs.

S. 2748 would revise the procedures for new drug applications by authorizing an abbreviated procedure for generic versions of "pioneer" drugs approved after 1962. It would also authorize the restoration of patent time lost due to the pre-market requirements of the Federal Food, Drug, and Cosmetic (FDC) Act for drugs, medical devices, food additives and color additives.

As you know, Mr. Chairman, these concepts of an abbreviated approval process for drugs approved after 1962 and patent term restoration are initiatives given high priority by this Administration. We firmly believe that establishing an abbreviated new drug application (ANDA) system is a public health objective whose time has come. As more and more drugs from the post-1962 era come off patent, an ANDA system for these drugs would increase competition, lower drug costs and save American consumers literally hundreds of millions of dollars in the years ahead. And, by preserving incentives for drug development, the companion provision for patent term extension is also in the public interest. Accordingly, we support the concepts in S. 2748 and believe that, with certain technical revisions, the bill would represent a major advance in our nation's health care system.

Let me provide some additional background before I turn to the bill itself.

## ANDAs

An ANDA is an abbreviated new drug application for marketing approval for a duplicate version of a drug product that has been approved as safe and effective. An ANDA does not contain the clinical data on human safety and efficacy that were required in the new drug application (NDA) to market the previously approved or "pioneer" drug. It is predicated on the view that the safety and effectiveness of the therapeutic entity have been established.

To require repetition of the costly studies originally needed to establish safety and effectiveness has the effect of barring the introduction of most generic equivalents. Without an ANDA procedure, the requirement for NDAs has the effect of a secondary patent which protects the pioneer indefinitely from generic competition. Moreover, a requirement for duplicative clinical studies is scientifically unnecessary.

The Food and Drug Administration (FDA) has long recognized the value of an ANDA system. ANDAs have been used by FDA under the Drug Efficacy Study Implementation (DESI) program for the approval of generic versions of drugs first approved only for safety between 1938 and 1962, the year in which Congress amended the FDC Act to require that drugs be shown to be effective as well as safe. A similar procedure has not been established for post-1962 drugs. In recent years, however, the patents have expired for many post-1962 drugs. As a result, generic drug manufacturers have become increasingly interested in changing FDA's drug approval system to eliminate the current requirement for the submission of full reports of safety and effectiveness studies for generic drug products.

To give you some idea of the impact a post-1962 ANDA system would have, by the end of 1985 there will be approximately 160 drugs approved since 1962 that will have come off patent, and that number will grow by over 30 percent by the year 1990. A number of drugs about to come off patent are also among the nation's top selling prescription products. Of the post-1962 drugs coming off patent by the end of next year, six are among the nation's top ten sellers in terms of retail sales. That number, too, will grow over the next several years.

A post-1962 ANDA procedure would be consistent with a number of FDA programs that have aided the marketing of generic drugs. In addition to the pre-1962 ANDA procedure under the DESI program, FDA has permitted generic applicants for post-1962 drug products to rely on reports of studies published in the open scientific literature, the so-called paper NDA process. However, adequate literature is available for relatively few post-1962 drugs.

For these reasons, the Committee is to be commended for introducing this important legislation.

S. 2748 (Title I)

Let me now turn to the specific bill. We believe that with a few technical modifications, S. 2748 would contain the essential ingredients for balancing many complex and competing considerations surrounding an equitable ANDA system. If adopted, these modifications would not upset the careful balance that S. 2748 is intended to achieve. Our concerns go primarily to the manner in which FDA would be asked to implement the post-1962 ANDA system. To gain the desired benefits, the system needs to be manageable and workable. That is our main concern and I would like to summarize our recommendations for you.

1. The Bill Would Create a Burdensome Backlog of Applications

S. 2748 would immediately open to ANDA eligibility all drug products approved from 1962 through 1982 that are no longer protected by patent. We foresee a difficult period arising from this in which our current review resources could not handle the incoming applications. Within the first six months of enactment we might receive 900 applications, followed by 400 applications during the next six months. Thousands more would follow during the next several years.

Our objective is to deal with these applications in the most efficient and productive manner possible. To that end, we are already evaluating the resource implications and gearing up, to the extent possible, to implement this legislation. However, Mr. Chairman, you should be aware that we would be unable to act on each application within the 180 day time-frame specified in the bill if we were confronted by the staggering volume of applications that we anticipate receiving.

To remedy this situation, we recommend that the bill establish an orderly phase-in of eligibility for ANDAs. One possibility is to begin with drugs in order of initial approval. Another is to begin with drugs that represent the greatest prescribing volume. In any event, we would aim to open the process to all drugs in the shortest possible time and we would be pleased to work with the Committee to achieve an equitable and workable solution.

## 2. Different Active Ingredients Should Not Be Specifically Authorized

Second, we recommend deletion of provisions in S. 2748 that permit ANDAs for new combination drugs. We believe that, as a rule, ANDAs should be limited to drugs which have the same active ingredients as the pioneer drugs. There may be rare instances in which the public interest is served by permitting ANDAs for combinations which have not been previously approved. But overall, we do not believe that it is in the public interest to encourage the proliferation of new combinations without adequate clinical testing for safety and effectiveness.

We would be pleased to work with the Committee to develop a procedure to approve new combinations in those limited circumstances where public health and scientific considerations make such approvals appropriate.

## 3. Linking Effective Date of Approval to Patent Status of the Pioneer Drug Has Resource Implications

S. 2748 ties ANDA and paper NDA approval to the patent status of the pioneer drug. The effective date of FDA's approval of an ANDA or paper NDA would vary, depending on whether the pioneer patent had expired or was still running or whether the patent status of the pioneer was being litigated.

As a result, FDA would be responsible for delaying the effective date of approvals pending resolution of such matters as civil litigation or requests for reexamination of patentability to the Patent Office, and for delaying the effective date of the approval of subsequent generic applications until the first generic drug involved in a patent challenge had been marketed for 180 days.

Although these provisions are not intended to require judgmental determinations with respect to patent status, the new and complex recordkeeping that would be required would have resource implications for the Agency and would also embroil us in the substance of patent controversies. For example, a successful litigant in a patent suit would learn of a court decision before FDA could be officially notified and, from our experience, would pressure the Agency to issue an approval prior to the official notification, or perhaps simply market the product, leaving us with an enforcement problem.

We understand that the purpose of these provisions is to prevent the marketing of duplicate products before issues concerning the pioneer's patent status are resolved. Mechanisms are available, however, to protect patent rights which need not involve the limited resources of FDA. In our view the requirement in S. 2748 that ANDA and paper NDA applicants must provide notice of their intentions to the patent holder should be adequate to protect the patent status of the pioneer product. This notification, which would precede ANDA or paper NDA approval in every case by six months or more, should enable the pioneer manufacturer to protect its patent rights through judicial remedies.

## 4. Veterinary Drugs Should Be Included

S. 2748 would provide patent protection for pioneer veterinary drugs but would not authorize an abbreviated application procedure for generic versions of these products. We believe that veterinary drugs should be included. A post-1962 abbreviated new animal drug application policy would essentially eliminate the need to reprove that which has already been established. The benefits of such a policy would accrue primarily as savings through the increased availability of lower-priced generic animal drug products. Less expensive drugs available to the livestock producer and the veterinarian should result in savings in the cost of food and savings in health care for companion animals.

I would note that the animal drug provisions in Title II are inconsistent with those contained in H.R. 5529, a bill designed to extend patents for both agricultural and chemical products and that the United States Department of Agriculture has officially notified Congressman Kastenmeyer of its support for the bill. While FDA has not been asked to provide its views on H.R. 5529, we encourage the Congress to review the possibility of reconciling these differences as quickly as possible in order to enact the most meaningful set of legislative changes.

## PATENT RESTORATION

Turning now to patent restoration, it is well-known that products requiring FDA pre-market approval sometimes entail high development costs, the risk of failure and small potential markets. And as an additional disincentive, innovators typically lose years of patent exclusivity because of testing requirements and regulatory review.

We are mindful of the paradox that the careful and time-consuming scientific review needed to confirm safety and effectiveness may be reducing initiatives to develop drugs that come to FDA for review.

Streamlining the regulatory process will help. However, our premarket approval system must continue to be thorough enough to assure the safety and efficacy of new drugs and devices and the safety and functionality of food and color additives, even if that means living with a process that takes longer than we would ideally prefer. We want to encourage innovation, but not at the expense of safety. Consequently, the Department of Health and Human Services supports patent extension legislation as a means of encouraging innovative research.

## Title II of S. 2748

As with the ANDA portion of S. 2748, we believe the patent restoration provisions in the bill reflect a major step toward equitable legislation in this area. We do have some concerns that we would like to share with you, however, about the impact that this legislation would have on the operation of FDA.

We also understand that the Patent and Trademark Office of the Department of Commerce has some concerns, which Commissioner Mossinghoff described in yesterday's hearing on H.R. 3605, House companion bill to S. 2748, which we would commend to the Committee's attention.

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## 1. FDA Need Not Determine the Regulatory Review Period for Every Product

S. 2748 would require an applicant for patent extension to submit to the Commissioner of Patents a brief description of the applicant's activities during the pre-market regulatory review period and the dates of certain significant milestones that occurred during this period. The Commissioner of Patents would be required to send a copy of the application containing this information to the Secretary of Health and Human Services, who would be required within 30 days to determine the applicable regulatory review period.

Having to determine and confirm the regulatory review period for each product would be burdensome to FDA because the Agency would have to store and retrieve information in a form which otherwise would be of little or no utility to it. We believe this burden could be eliminated by requiring the applicant, rather than FDA, to determine the regulatory review period in its application to the Commissioner of Patents. The formula for doing so is provided in the bill, and the applicable dates would be well known to the applicant.

The applications could be made available to the FDA for inspection or audit at FDA's discretion on the same enforcement basis that other reports, such as income tax filings, are regulated. Since the patent term extension is added on to the end of the patent term, we can perceive no public health reason to require FDA to determine the regulatory review period under a restrictive 30-day time schedule. The regulatory review period may be adequately determined and validated through a submission by the applicant and a discretionary review by FDA.

2. The Determination of "Due Diligence" Should Be Deleted

S. 2748 would require the Secretary to determine whether an applicant acted with "due diligence" during the regulatory review period if the Secretary were petitioned to do so within 180 days after a patent extension determination is published. If the Secretary were to find that an applicant did not act with due diligence for some period of time, the amount of patent extension that the applicant would be entitled to could be reduced.

The concept of "due diligence" is a laudable attempt to make patent restoration as fair as possible by disallowing time during which the development of a product was not vigorously pursued. However, we believe that the overwhelming majority of applicants would be entitled to the five-year maximum allowable patent restoration in S. 2748. This is true because the regulatory review period will generally be longer than necessary to confer the full extension period even assuming a reasonable attempt by both the applicant and FDA to assure prompt evaluation of the applications. A deduction for lack of due diligence would reduce the time that may be counted toward patent restoration down toward this five-year maximum, but probably not below it. Nonetheless, under the bill, FDA would be required to promulgate regulations, review petitions, prepare due diligence determinations and conduct hearings. As a practical matter, therefore, it appears that a complex system would be established that would require FDA resources to implement and maintain for no net public benefit. We therefore strongly urge that this feature of the bill be deleted.

## EXPORT OF UNAPPROVED DRUGS

I turn my comments next to the issue of the export of unapproved new drugs. We appreciate receiving a draft of proposed legislation that would authorize such export. Before commenting specifically on the draft, however, I would first like to put this issue into some perspective.

As the Subcommittee recognizes, the FDC Act does not presently permit the export of unapproved new human and animal drugs except for certain carefully controlled exports for investigational use abroad. Similarly, the Public Health Service Act does not permit the export of unlicensed biologicals.

The Department of Health and Human Services (DHHS) and the FDA have in the past been asked to consider statutory amendments to permit the export of unapproved new drugs and unlicensed biologicals. For example, the proposed Drug Regulation Reform Act of 1978 contained a provision for the export of unapproved new drugs. Although the Department has no current legislative initiative on this subject, we will be pleased to work with you in providing comments on the current proposal or any other specific proposal this committee should advance.

Let me now take a few moments and discuss our current thinking on this issue. We believe we have an excellent precedent right in the FDC Act, that being the provision authorizing the export of unapproved medical devices. We believe that provision contains adequate public health safeguards, and our experience with medical device exports under this provision of the FDC Act has been quite favorable. For example, we are not processing approximately 250-300 export requests per year under the medical device provision. We will be happy to provide more specific information regarding our export experience with medical devices for the record, if you feel that would be useful.

The Medical Device Amendments of 1976 permit the export of certain classes of medical devices, including unapproved medical devices, if they:

(1) accord to the specifications of the foreign purchaser;

(2) are not in conflict with the laws of the country to which they are intended for export;

(3) are labled on the outside of the shipping package that they are intended for export;

(4) are not sold or offered for sale in domestic commerce; and

(5) if the Secretary of DHHS determines that their export would not be contrary to the public health and safety; and

(6) that their export has the approval of the country to which they are intended to export.

The most important public health safeguards in the medical device provision are the last two I mentioned, namely, concern over public health and safety and the approval of the importing country. Untimately, however, we [redacted] believe that the governments of other nations are the proper authorities to assess their own health needs, the diseases and health-related characteristics of their populations, the nature of their health care delivery systems, the availability of treatment alternatives, and all of the many other factors that go into risk/benefit decisions. We support, and would continue to support, international efforts to assure that all nations have access to information to assist in those risk/benfit determinations.

In this regard, the Adminstration supports international effors to share informaiton and to improve the ability of all nations to make their own risk/benefit decisions regarding drugs. FDA shares with other countries information regarding drug approvals and withdrawals, as well as concerns we may have with respect to specific drugs. The United States has actively participated in the World Health Organization's (WHO) Certification Scheme for Pharmaceuticals Moving in International Commerce. This system, adopted by WHO in 1975 and currently agreed to by over 80 countries, permits an importing country to obtain from the government of an exporting country current information on the quality and approval status of a drug in the country of export.

The United States is also involved in other international activities for ensuring the flow of information on the safety and efficacy of pharmaceutical products. These activities include regular submissions of information as well as notifications of significant regulatory actions on drugs to the WHO for subsequent dissemination in WHO's Drug Information Circular and the WHO Drug Information Bulletin. The United States also serves as a National Collaborating Center for the WHO International Drug Monitoring Scheme. In addition, the United States participates in the biennial International Conferences of Drug Regulatory Authorities, which provides a forum for the exchange of drug information and discussions of regulatory actions. The first such conference was hosted by the United States in Annapolis, Maryland in

1980 and the second conference was held in Rome, Italy in 1982. The third has just been held in Sweden.

Thus, we believe that the safeguards described above relating to medical devices, together with WHO's information dissemination efforts, in which we actively cooperate, would provide an appropriate measure of control over the export of unapproved new drugs and unlicensed biologicals, while at the same time permitting the governments of other nations to exercise their own risk/benefit decisions with respect to the pharmaceuticals they believe are suitable for use in their countries.

Now let me turn to the draft legislative proposal at hand. We support its intent, and we especially support the reliance placed on requiring assurance that the drug may be lawfully offered for use in that country. As noted above, we believe this constitutes an important public health safeguard and has proved to be quite workable in the export of unapproved medical devices. There are some aspects of the draft bill that do cause us some concerns, however. Let me outline them for you briefly.

### 1. Development of the List of Countries Eligible to Receive Drug Products Not Approved in the United States.

We understand the objectives of the draft's requirement that we establish a list of foreign countries with adequate regulatory systems in place to approve drugs. While such a list could be developed, we believe that for us to sitin judgment of our sister regulatory agencies around the world would place us in the very difficult diplomatic position of publicly assessing the suitability of public health safeguards in other countries. We believe the governments of other nations are in the best position to assess their own health needs.

Mr. Chairman, the system devised by the Congress to authorize the export of unapproved medical devices, the key elements of which I described a moment ago, is sound and efficient, and deserves the Committee's consideration.

### 2. Labeling Provisions

A more technical point is that the provision for foreign language labeling is not feasible from an administrative standpoint. The draft would allow the pre-export notification to FDA for a drug not approved in the United States to contain non-English labeling from a listed country and a non-English translation of that labeling for an unlisted country. The Agency would, therefore, be required to check the adequacy of the labeling in multiple languages. This provision should be changed to require that the pre-export notification to FDA contains certified English translations of all labels submitted.

### 3. Definition of "Banned" Drugs

One of the conditions to be met in order for a product to be exported to listed or unlisted countries raises the concept of a drug that is "banned" in the United States, a concept which has not been defined in either the draft or existing law for drugs. The current statutory scheme for drugs and biologics in the United States results in essentially two categories: those that are approved or licensed and those that are not. For a relatively small number of those that are not approved or licensed, the FDA has refused approval or has withdrawn approval. If the concept of a "banned" drug is to be retained, it should probably include, at a minimum, products for which FDA has formally withdrawn approval or suspended licensure under the normal statutory procedures for withdrawing approval of such application as well as under the "imminent hazard" provision of the FDC Act.

### 4. Dissemination of Significant Information on Drugs

As I discussed earlier, we already have mechanisms in place to provide important regulatory information to foreign governments and WHO. Specific legislation to do so is, therefore, unnecessary. To expand this effort as described in the draft to include information on all drug approvals and all labeling revisions, and sending this regularly to over 160 member countries of WHO, would be extremely burdensom. I also do not believe that even WHO would have the resources to perform such a function.

In closing, Mr. Chairman, I can only emphasize that, with a few technical amendments that I have discussed with you today, the Departments supports S. 2748. We will also work with ~~to~~ the Committee to develop legislation regarding the export of unapproved drug products.

That concludes my prepared statement, Mr. Chairman. I will be glad to answer any questions you may have.

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The CHAIRMAN. Let me turn to Senator Nickles, first.

Senator NICKLES. Thank you, Senator Hatch. I appreciate your accommodation. It is necessary for me to be at the White House in 30 minutes.

Dr. Novitch, a couple of quick questions. I would like to know more about the impact of the bill on FDA resources and also your priorities.

You mentioned in your opening statement the number of ANDA's that you would be processing, the very large numbers. How do you assess the effect of this bill on your resources now available for FDA approval of regular new drug applications?

Dr. NOVITCH. Well, we would make every attempt, obviously, to not divert resources from the approval of pioneer drugs. Those drugs are new; many of them represent major advances in health care, and it would be counter to the public interest, we think, to divert resources from the approval of those pioneer drugs.

There is no question that the bill, as presently written, would require considerable resources. We haven't done a very fine estimate, but it could be close—just on the ANDA side, 55 to 60 new positions, and a cost of $2.5 million to support those positions.

But even if those positions were to be available to us, I have to tell you that the approval of generic drugs represents an exercise, principally, in comparative absorption, the kinetics of one drug, its absorption and its delivery to the site of action, and its equivalence to the pioneer drug. And that is a rather specialized science, and I am not sure that even if we had the positions available to us that we would be able to get enough people expert in that area to do the work right away. So regardless of the resource question, it is a matter of the availability of those people and our competing for those people who command higher salaries in the private sector. So we would have a problem both with resources and the skills needed to do that. That is why we have urged that there be a phase-in of some kind.

Senator NICKLES. So to ensure that there is not a divergence of resources from approval of regular applications you suggested in your opening statement two possibilities, or I guess two different variations of a phase-in. Do you think, if you had that phase-in, you would be able to ensure that efforts weren't lessened on approval of regular new drugs?

Dr. NOVITCH. Yes, I do, Senator Nickles.

Senator NICKLES. Do you have any idea of how much this legislation might cost? You talk about the number of applications, the necessity for additional expertise and professionals in the area. Do you have an idea how much it might cost?

Dr. NOVITCH. All together, we believe that both titles of the bill would run on the order of about 80 positions and $3.5 million. That is excluding the export bill, which is quite separate.

It would run on that order. Of course, those positions—the people to fill those positions, as I have said, wouldn't be available to us right away.

Senator NICKLES. You mentioned a number, and I was trying to recall it, of how many of the abbreviated generic ANDA's might be filed as a result of the legislation. Would you repeat that?

Dr. Novitch. Yes; we expect something like 900 in the first—I think 900 in the first 6 months and about 400 in the second 6 months, and over the next several years it would be literally in the thousands.

Senator Nickles. Is that over and above what you are receiving today?

Dr. Novitch. Oh, yes.

Senator Nickles. So it would be a tremendous——

Dr. Novitch. Yes, that is an increment.

Senator Nickles. All right.

You mentioned also in your statement the "due diligence" provisions. Was it your conclusion that that should be dropped from the bill? Was that my recollection?

Dr. Novitch. Yes, that is our emphatic recommendation.

Senator Nickles. Primarily because of the additional burden that it might be putting on the FDA, and with little net plus for the consumer?

Dr. Novitch. It is the latter. We would tolerate the burden if there was a compensating public gain. But we believe that the length of time that it takes to approve a drug, even despite our best efforts to shorten that time and to speed the review process—and I want to say that we are making every effort to speed the review process, and for important advances in drug therapy we have literally cut the time to approve drugs.

But even so, we believe that the time it takes to do the kind of safety and efficacy—develop those data to satisfy our criteria and necessary public health standards, is going to take the full period that would correspond to the 5-year maximum.

Senator Nickles. Dr. Novitch, I appreciate your concise answers and also your statement. I think it was well prepared, and that you are doing a good job.

Mr. Chairman, I appreciate your juggling the schedule around to accommodate me. Thank you very much.

The Chairman. Thank you, Senator.

Dr. Novitch, concerns have been raised as to whether S. 2748 preserves FDA's basic authority to assure that drugs are safe and effective. Now, is it your view that under the bill FDA could refuse an ANDA if it is in the process of forcing the removal of the pioneer drug from the market because of safety considerations of any kind?

Dr. Novitch. Well, it is not very clear. It appears that if we have a proceeding underway against a pioneer drug. It appears from our reading of the legislation that a generic manufacturer could apply and receive an ANDA until we have taken final action to remove the pioneer drug from the market. And that does present a question to us. Is it in the public interest to be approving a generic drug when, in fact, we have serious concerns about the safety or the lack of effectiveness of the drug that it purports to be a copy of.

The Chairman. S. 2748 allows, in some circumstances, the substitution in a combination generic drug of a different active ingredient from one of those present in the pioneer combination drug. Now, does the bill in the slightly altered version reported by the House Energy and Commerce Committee, adequately maintain FDA's authority to require safety and efficiency data for such substituted combination drugs before their ANDA's really are approved?

Dr. NOVITCH. It gives us the authority to deny a petition for a combination drug which is not—does not have the exact same ingredients as the pioneer. It gives us the authority to require both safety of the ingredients—information on safety of the individual ingredients as well as the combination of the whole in its modified form.

But the presumption is—by putting this in the act, Mr. Chairman, the presumption is that we will approve many of those petitions. And the fact of the matter is that we think it would be unwise, as a rule, to approve combinations that haven't gone through a full safety and effectiveness review. It would be a better policy, in our judgment, to limit ANDA's for combinations to those that have gone through a full pioneer NDA for that combination.

Now, there may be, and in fact, there has been in the House report—an example or two are cited where we in fact have allowed manufacturers to substitute one ingredient in a combination for another without full safety testing.

So, as I said in my statement, it would be helpful to have a very limited provision for such a combination, a new combination, to be marketed. But in general, we think that the bill ought to aim to keep those very limited. We have struggled for a long time to have a rational drug combination policy in this country, and it is working very well. And I think the medical profession and the public approve of the policy that we have. And this, in my judgment, would tend to weaken it.

The CHAIRMAN. On a related point about ANDA procedures, has the FDA identified any circumstances under which it believes or thinks it would lack the authority to require safety and efficacy data if that data would have significance in keeping unsafe or ineffective drugs off the market?

Dr. NOVITCH. Well, we have examined that question and it is hard for us, apart from the combination issue that you raised, it is hard for me to think of a safety and effectiveness issue that we would want to examine with respect to an ANDA that isn't already raised in the pioneer drug. One roundabout way of saying it, when a drug is eligible for an ANDA, the safety and effectiveness of the basic ingredient or ingredients should have already been proven. All we need to know from the ANDA holder is whether it has the capability of manufacturing that drug and that it is formulated correctly, but not go to the basic safety and effectiveness question of the basic ingredients. That, presumably, has already been established.

The CHAIRMAN. Concern has been expressed over the possibility that under S. 2748, FDA might be required to release safety and efficacy data for drugs which are subject to ANDA's, which data may be commercially valuable, and that it could be used by foreign competitors to support their applications for approval in foreign countries.

Now, I understand that FDA's current practice makes use of an "extraordinary circumstances" concept. Could you explain this and comment on the FDA's view of the data release policy embodied in this particular bill?

Dr. Novitch. That has been the subject of some litigation, and I would like to ask Tom Scarlet if he would address that question.

Mr. Scarlet. The current procedure in our regulations does allow for the release of safety and effectiveness data when there is a determination made that they are not necessary to support a drug approval application, unless extraordinary circumstances are shown. There has not been litigation on the issue. There have, however, been several requests made for safety and effectiveness data in pioneer NDA's, for which ANDA's are suitable.

We have denied those requests. The reason we denied those requests was because we found an extraordinary circumstance to exist, in that the data could be submitted to a foreign government in support of an application for approval to market the product there. The companies that owned the pioneer NDA's were asked to provide supporting information for that proposition, and they did so.

I think one concern that we would have is that we have not had a firm judicial challenge to that interpretation of the phrase "extraordinary circumstance." We would expect that the "extraordinary circumstance" exception in this legislation, if it is enacted, would probably lead to litigation, and it may well be that extraordinary circumstances will not be found to exist merely by reason of the possibility that data could be submitted in support of a product approval application elsewhere.

So one possible approach to clarifying the term "extraordinary circumstance" would be in legislative history. Another approach would be to conform the "extraordinary circumstance" standard in the proposed legislation to the standard that FDA is currently proposing in a revision to its regulations. And the standard would allow the agency not to release safety and effectiveness data if it still was a trade secret or confidential commercial information within the meaning of (b)(4) of the Freedom of Information Act.

The Chairman. Speaking to our drug export proposal, Dr. Novitch, why is it that it often takes longer for a drug to receive FDA approval than it does for approval in other developed countries?

Dr. Novitch. Well, Mr. Chairman, I am not sure that I can fully agree with the premise. We have been moving to become more efficient in the approval of drugs, and at least for the most significant advances, we have been successful in reducing the approval time. I don't pretend that the time overall has been shortened greatly. It still takes a long time to approve drugs in this country.

But on the other hand, in other countries, the regulatory systems have become more stringent as more problems with drugs are recognized, and their legislative bodies moved to tighten up requirements. So I think that gap, if it exists, is certainly narrower.

But I think the basic point of your question is that it does take a long time for drugs to be approved in this country, and I think the same is true in other countries of the world. That is why this legislation is, in my judgment, important.

The Chairman. Do you know of any particularly significant problems that have resulted from the export of antibiotics or medical devices under the currently less restrictive rules governing them?

Dr. NOVITCH. No. With devices I am fairly certain that there has not been. I am not aware of any special problems with antibiotics that we haven't recognized and dealt with.

The CHAIRMAN. In your opinion, could conditions peculiar to other countries, such as epidemics or exploding population growth, make it appropriate for drugs to be judged by standards other than those which the FDA would normally employ in reviewing the same drug for use in this country?

Dr. NOVITCH. Yes, I do. And I think that is one of the principal reasons for having this legislation. I think that as long as a drug hasn't been banned here and represents a public health problem either here or abroad, and it responds to a public health need abroad, that is precisely the kind of drug that ought to be exported even though it is not applied for or needed in this country.

The CHAIRMAN. I am going to turn to Senator Hawkins at this point.

Senator HAWKINS. In answer to one of the questions to Senator Hatch, you indicated that there was not necessarily more lag in approving drugs in this country than in any other country. Could you provide for the record the typical time lag for U.S. FDA approval of a drug, and the approval of a drug approved in Great Britain——

Dr. NOVITCH. Yes, I will.

Senator HAWKINS [continuing]. Japan, Germany, and France?

Dr. NOVITCH. I would be happy to do that, Senator.

Senator HAWKINS. Does the Public Health Service have a mechanism for collecting comprehensive data regarding adverse reactions associated with licensed drug products?

Dr. NOVITCH. Yes. We have a rather elaborate system. It is not beyond improvement, and in fact we are strengthening it currently. But we have a well-functioning system that requires manufacturers to submit adverse experience data to us promptly and continuingly, and also encourages physicians and other health professionals also to report adverse reactions to us. And as I say, it is a well-functioning system and we are strengthening it still further.

Senator HAWKINS. Is postmarketing surveillance of licensed drug products required?

Dr. NOVITCH. Yes, it is.

Senator HAWKINS. And how does that work?

Dr. NOVITCH. Well, the manufacturer is required by law to submit adverse experience to us on every new drug. Every drug that is the subject of a new drug application must, on a regular basis and very promptly, in the case of a sudden change in experience, report those data to us.

Senator HAWKINS. How does that happen? The doctor tells the pharmaceutical company?

Dr. NOVITCH. Hospitals, doctors, institutions, report those incidents to the company and the company is required to report all of the information that it learns to us.

Senator HAWKINS. How about vaccines?

Dr. NOVITCH. Vaccines have the——

Mr. SCARLET. I believe that the reporting requirements are not as direct with respect to biological products approved under the Public Health Service Act.

Senator HAWKINS. So something that is injected into the body with a needle is not subjected to as much scrutiny for adverse reactions as something taken by mouth?

Mr. SCARLET. Well, the distinction isn't between an injectable and an oral form. The distinction would be between a vaccine. When you say "vaccine" you are referring to a biological product which is approved under different provisions of law. I don't think that the reporting requirements for biological products are as elaborate as they are for approved new drugs or approved antibiotics. But that does not mean that these products are subject to less scrutiny, nor does it mean that FDA necessarily has less information about them. It simply obtains that information in different ways.

Dr. NOVITCH. I would like to stress that. I don't want to leave the impression with you that there is no surveillance on vaccines. It is a very close surveillance on vaccines, and if you would like, we could submit for the record the provisions that relate to vaccines.

Senator HAWKINS. I would like that, please.

Why is 1962 the cutoff date that is used for allowing the expedited application procedure for drugs?

Dr. NOVITCH. Well, that is the date of the drug amendments of that year that required safety and effectiveness—effectiveness as well as safety and mandated a review of effectiveness for all drugs that were first marketed between the enactment of the 1938 law, our current law, and the 1962 effectiveness requirements. So there has been a rather extensive review of all drugs first marketed between 1938 and 1962. And to implement the effectiveness requirements for all those drugs, numbering something like 3,600 or 3,700 separate drugs, we thought it was important to have an abbreviated procedure, and that is what has been put in place for pre-1962 drugs. The reason why there was no comparable procedure for post-1962 drugs is that it wasn't sensed as needed. Most of those drugs in 1962 were on patent. There was no cohesive generic industry to speak of back in those days, and there were very few post-1962 generic drugs. There was just no demand for it. Clearly, that situation is different today. More and more of these drugs are coming off patent, and the requirement that each of them submit a full new drug application is clearly anticompetitive, and, as I said in my statement, quite wasteful.

Senator HAWKINS. In one of your answers to Senator Hatch, you inferred that the FDA approves the efficacy of all drugs that are on the market today.

Dr. NOVITCH. All new drugs. All drugs first marketed since 1938 have to be the subject of efficacy data, either by the submission of a new drug application after 1962, or an abbreviated new drug application if before 1962.

Senator HAWKINS. Thank you, Dr. Novitch.

The CHAIRMAN. Thank you, Dr. Novitch.

We will be also keeping the record open for the submission of questions by members of this committee in writing. We would like to have your responses as quickly as possible.

Dr. NOVITCH. Absolutely.

The CHAIRMAN. We will keep that record open through tomorrow, so we will notify all staff to get their questions in to you, and I may have some questions I will be submitting in writing as well.

Dr. NOVITCH. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you so much. We appreciate your being here.

Our second panel will be composed of two individuals who are largely responsible for the present form of S. 2748, Mr. Lewis Engman, president of the Pharmaceutical Manufacturers Association, and Mr. William Haddad, president of the Generic Pharmaceutical Industry Association.

Now, I want to congratulate both of you on your great efforts in bringing together competing forces in this compromise bill.

Mr. Engman is accompanied by Mr. John Robson, executive vice president and chief operating officer of G.D. Searle & Co. This panel will also include Mr. Robert Ingram, vice president of Merrell Dow Pharmaceuticals, and Mr. Robert Swanson, president of Genetech, Inc. Mr. Ingram and Mr. Swanson will be speaking to the drug export issue.

We will hear from these for gentlemen in the order indicated and will proceed with you, Mr. Engman.

## STATEMENT OF LEWIS ENGMAN, PRESIDENT, PHARMACEUTICAL MANUFACTURERS ASSOCIATION, ACCOMPANIED BY JOHN E. ROBSON, EXECUTIVE VICE PRESIDENT, G.D. SEARLE

Mr. ENGMAN. Thank you very much, Mr. Chairman. I have a full statement which will be in the record, and I will just give highlights of it orally.

The CHAIRMAN. And we do appreciate it if you can summarize.

Mr. ENGMAN. The Pharmaceutical Manufacturers Association supports S. 2748, which will restore patent life lost for medicines and related products subject to lengthy Government premarket clearances and will also amend existing law to expedite the approval of generic drugs by the Food and Drug Administration.

We believe this compromise legislation is a major step forward for the American consumer. Its provisions will increase competition, lower prices, and stimulate the development of new, lifesaving medicines critically needed around the world.

This legislation is a compromise, however, and as is often the case with compromises, a number of PMA member companies do not support some aspects of this bill, even though they may support the underlying concepts of patent term restoration and ANDA reform.

Nonetheless, a majority of PMA's board members support the legislation and believe the bill is a reasonable compromise which should benefit the American public.

Title I, dealing with abbreviated new drug applications, as amended by the House Energy and Commerce Committee, was first proposed as H.R. 3605 in a substantially simpler format by Congressman Waxman in July 1983. Hearings were conducted by the Subcommittee on Health and Environment, and the bill was favorably reported by that subcommittee in August 1983.

Subsequently, after lengthy and continuing discussions and negotiations among the research-based pharmaceutical industry, the generic drug industry, various interest groups and Members of Congress including, I might add, Mr. Chairman, some very valuable contributions by you and members of your committee, the bill was amended and favorably reported by the Energy and Commerce Committee on June 12, 1984. Also on June 12 that same legislation was introduced in the Senate as S. 2748 by you, Mr. Chairman, with Senators Mathias, Kennedy, and DeConcini.

Title I of S. 2748 would make important new changes in the procedures for the approval of ANDA's. Existing law and FDA regulations generally require applications for FDA approval of generic drugs first marketed after 1962 to be supported by their own studies demonstrating safety and effectiveness. Under S. 2748, generic versions of these drugs may be approved by FDA if they are exactly the same, without independent evidence of safety and effectiveness after all pioneer patents have expired. If a generic company intends to challenge the validity of a patent, notice must be given to the patent owner when the ANDA is submitted to FDA in order to give the parties a chance to resolve the issue through litigation. For pioneer drugs first marketed between January 1, 1982 and the effective date of the legislation, no ANDA may be granted for 10 years from the date of approval of the pioneer product. For unpatentable drugs approved after enactment of the legislation, no ANDA may be granted for 4 years after approval of the pioneer drug.

Mr. Chairman, PMA and its member companies have very carefully reviewed title I of this legislation. Like title II, the ANDA portion is a product of compromise. As such, it is a balance of conflicting priorities. We believe that when considered in light of the salutory provisions of title II, it is a fair balance worthy of your favorable consideration.

Mr. Chairman, let me briefly turn to title II, dealing with patent term restoration. This a tle which had its origins in legislation which you supported in the 97th Congress, S. 255.

That legislation passed the Senate by a voice vote in 1981. A similar bill was narrowly defeated under the suspension of the rules on the House floor in September 1982. However, it was supported by 250 Members of the House.

Although title II of S. 2748 is different in several respects from its predecessor bill in the last Congress, the essential purpose of the legislation remains the same, to encourage medical innovation by restoring a portion of that part of a drug patent's life lost through the lengthy drug approval process.

The cause of the loss of patent life for pharmaceuticals is simply explained. When a firm discovers a promising new drug compound, it patents it immediately or risks losing the new technology to a competitor. Generally, a patent is issued within 2 or 3 years of patent filing, and the 17 years of protection begins immediately to expire. But the patent clock begins ticking long before a new product is ready for production and distribution. In fact, at the time its patent is issued, a new drug compound is, on average, 7 to 10 years away from the marketplace; 7 to 10 years that are needed to satisfy important statutory requirements for safety and efficacy administered by the Food and Drug Administration.

And although Congress never intended it, the time consumed in meeting these FDA requirements is, in effect, subtracted from the patent lives of medicines. This is not good public policy. It is the American consumer who is the real loser in all of this. Government policies that discourage drug research postpone the consumer's access to new medicines, deprive him of the savings new medicines make possible by making unnecessary more costly forms of treatments such as hospitalization and surgery, and oblige him to forego the benefits of the competition that occurs when innovation is thriving. These consequences need not occur.

Title II of the bill, by restoring to new drug products up to 5 of the 7 to 10 years currently subtracted from their average patent life, will reverse the decline in research incentives, stimulate more rapid innovation, strengthen the industry's international competitive position, and, most importantly, ensure that the American consumer in the decades ahead has access to better medicines earlier.

Mr. Chairman, as I mentioned at the beginning of my statement, S. 2748 is a compromise. As such, title II includes provisions about which PMA has had some reservations. The effects of these provisions were weighed very carefully by each of our companies. While they cause concern, we recognize that they are the very fabric of the compromise of divided views and goals. PMA and a majority of its members recognize this and support title II as it stands.

The Pharmaceutical Manufacturers Association supports enactment of S. 2748. The bill provides needed patent incentives for new research in medicines, and creates a workable system for approving duplicate versions of pioneer products. We believe that S. 2748 is a long-overdue legislative measure which will promote competition, encourage research, and provide American consumers earlier access to better medicines at lower cost.

Mr. Chairman, I would now like briefly to turn to the question of changing the law to allow the export from the United States of drugs not approved for sale in the United States.

In the 20-year period between 1961 and 1980, nearly 1,400 drug products were first introduced in a country other than the United States. In that period, only 114 were first introduced here in America. France, West Germany, Japan, Italy, and Great Britain were all ahead of the United States in the number of drugs first introduced.

Several products introduced in the United States within the last 3 years have been approved and sold in Europe from 2 to 15 years earlier. Under the current Federal Food, Drug, and Cosmetic Act, U.S. firms cannot export new drugs for sale abroad, even to countries with approval systems similar to that of ours, until they have been approved for sale in the United States itself. In effect, the act prevents the U.S. firms from exporting products which will never even be submitted for approval in the United States because they treat diseases that don't exist here. A tropical disease such as river blindness is a good example.

Of all the major drug-producing countries in the world—that is, the United States, Japan, Switzerland, Germany, France, and the United Kingdom—only the United States maintains such a restrictive export policy. The result is that American companies who wish to manufacture these products are forced to manufacture them abroad. This results in the export of technology and jobs. This situation benefits no one and has an obvious adverse impact on unemployment and our balance of payments. It can and it should be corrected.

Amending current law to allow for the manufacture and shipment of drugs approved for sale in other countries but not yet approved in the United States is a laudable goal, and it can be achieved with no risk to our citizens and with benefits to consumers in the importing countries.

The protections built into the draft legislation, Mr. Chairman, in addition to the other protections currently contained in section 801(b) of the food and drug law should assure that the export of inappropriate products does not occur.

We support these goals and we urge prompt consideration and enactment of this proposed legislation as well.

That concludes my statement, Mr. Chairman. I would like to ask if Mr. Robson could make some brief comments.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Engman follows:]

STATEMENT OF

LEWIS A. ENGMAN

PRESIDENT

PHARMACEUTICAL MANUFACTURERS ASSOCIATION

BEFORE THE

COMMITTEE ON LABOR AND HUMAN RESOURCES

UNITED STATES SENATE

ON

S. 2748

DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

AND

PROPOSED LEGISLATION

TO PERMIT THE EXPORT OF MEDICINES

NOT APPROVED IN THE UNITED STATES

JUNE 28, 1984

## DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

Mr. Chairman, the Pharmaceutical Manufacturers Association appreciates the opportunity to testify on S. 2748, the "Drug Price Competition and Patent Term Restoration Act of 1984." The Pharmaceutical Manufacturers Association represents the research-based pharmaceutical companies that develop and produce prescription drugs in the United States and throughout the world. PMA members develop more than 90 percent of the new chemical entity pharmaceuticals introduced in the United States each year.

PMA supports S. 2748, which will restore patent life lost for drugs and related products subject to lengthy, government pre-market clearances, and will also amend existing law to expedite the approval of generic drugs by the Food and Drug Administration. This compromise legislation is a major step forward for the American consumer. Its provisions will increase competition, lower prices and stimulate the development of new life-saving medicines critically needed around the world.

This legislation is a compromise, however, and as is often the case with compromises, a number of PMA member companies do not support some aspects of this bill even though they may support the underlying concepts of patent term restoration and ANDA reform. Nonetheless, a majority of PMA's Board Members supports the legislation and believes the bill is a reasonable compromise which should benefit the American public.

## Title I -- Abbreviated New Drug Applications

This title, as amended by the House Energy and Commerce Committee, was first proposed as H.R. 3605 in a substantially simpler format by Congressman Waxman in July, 1983. Hearings were conducted by the Subcommittee on Health and the Environment and the bill was favorably reported by that subcommittee in August, 1983. Subsequently, after lengthy and continuing discussions and negotiations among the research-based pharmaceutical industry, the generic drug industry, various interest groups and Members of Congress, the bill was amended and favorably reported by the Energy and Commerce Committee June 12, 1984. Also on June 12 that same legislation was introduced in the Senate as S. 2748 by Senators Hatch, Mathias, Kennedy and DeConcini.

Title I of S. 2748 would make important new changes in the procedures for the approval of abbreviated new drug applications (ANDAs).

Existing law and FDA regulations generally require applications for FDA approval of generic drugs first marketed after 1962 to be supported by their own studies demonstrating safety and effectiveness. Under S. 2748, generic versions of these drugs may be approved by FDA if they are exactly "the same" without independent evidence of safety and effectiveness after all pioneer patents have expired. If a generic company intends to challenge the validity of a patent, notice must be given to the patent owner when the ANDA is submitted in order to give the parties a chance to resolve the issue through litigation. For pioneer drugs first marketed between January 1, 1982 and the effective date of the legislation, no ANDA may be granted for 10 years from the date of approval of the pioneer product. For unpatentable drugs approved after enactment of the legislation, no ANDA may be granted for four years after approval of the pioneer drug.

Mr. Chairman, PMA and its member companies have very carefully reviewed Title I of this legislation. Like Title II, the ANDA portion is a product of compromise. As such, it is a balance of conflicting priorities. We believe that when considered in light of the salutory provisions of Title II, it is a fair balance worthy of your favorable consideration.

Finally, should this legislation be enacted, we urge that the FDA adopt prudent management and control procedures to assure that the anticipated heavy influx of ANDA filings does not deflect FDA from its primary mission of evaluating and approving new drugs.

## Title II -- Patent Term Restoration

Mr. Chairman, this title had its origins in legislation which you supported in the 97th Congress, S. 255. That legislation passed the Senate by a voice vote in 1981. A similar bill was narrowly defeated under the suspension of rules on the House floor in September, 1982; however, it was supported by 250 Members.

Although Title II of S. 2748 is different in several respects from its predecessor bill in the last Congress, the essential purpose of the legislation remains the same -- to encourage medical innovation by restoring a portion of that part of a drug patent's life lost through the lengthy drug approval process.

S. 2748 provides that the term of a patent for drug products and certain other products subject to pre-marketing approval by FDA may be restored for up to five years to reflect the time required, to do the necessary testing and obtain FDA approval. For drugs, the amount of time that can be restored equals half the investigational (IND) period plus all of the approval (NDA) period, less any time during which the applicant does not pursue FDA approval with due diligence. The maximum amount of time that can be restored is five years, and may not result in an effective patent life of more than 14 years. Restoration is not available for certain patents which come within one of several specific exclusions.

For drugs which have begun clinical testing and which have received a patent prior to the date of enactment, but have not yet received FDA approval, up to two years of restoration is permitted.

The cause of the loss of patent life for pharmaceuticals is simply explained. When a firm discovers a promising new drug compound, it patents it immediately or risks losing the new technology to a competitor. Generally, a patent is issued within two or three years of patent filing, and the 17 years of protection begins immediately to expire. But the patent clock begins ticking long before a new product is ready for production and distribution. In fact, at the time its patent issues, a new drug compound is, on average, 7 to 10 years away from the marketplace -- 7 to 10 years that are needed to satisfy important statutory requirements for safety and efficacy administered by the Food and Drug Administration.

Although Congress never intended it, the time consumed in meeting these FDA requirements is, in effect, subtracted from the patent lives of drugs. The pharmaceutical innovator's new product typically enters the market with less than 10 of the 17 years of patent protection provided by statute and, therefore, with only a fraction of the related investment incentives provided innovators in other industries. This is neither fair nor good public policy.

It is the American consumer who is the real loser in all this. Government policies that discourage drug research postpone the consumer's access to new medicines, deprive him of the savings new medicines make possible by making unnecessary more costly forms of treatment such as hospitalization and surgery, and oblige him to forego the benefits of the competition that occur when innovation is thriving.

These consequences need not occur. Title II of the bill, by restoring to new drug products up to five of the 7 to 10 years currently subtracted from their average patent life, will reverse the decline in research incentives, stimulate more rapid innovation, strengthen the industry's international competitive position and -- most importantly -- ensure that the American consumer in the decades ahead has access to better medicines earlier.

Mr. Chairman, as I mentioned at the beginning of my statement, S. 2748 is a compromise. As such, Title II includes provisions about which PMA has had some reservations. The effects of these provisions were weighed very carefully by each of our companies. But while they cause concern, we recognize that they are the very fabric of the compromise of divided views and goals. PMA and a majority of its members recognize this and support Title II as it stands.

## Conclusion

The Pharmaceutical Manufacturers Association supports enactment of S. 2748. The bill provides needed patent incentives for new drug research and creates a workable system for approving duplicate versions of pioneer products. We believe that S. 2748 is a long overdue legislative measure which will promote competition, encourage research and provide American consumers earlier access to better medicines at lower cost.

## EXPORT OF DRUGS NOT APPROVED IN THE UNITED STATES

I would now like to turn to the question of changing the law to allow the export from the United States of drugs not approved for sale in the United States.

In the twenty year period between 1961 and 1980, nearly 1400 drug products were first introduced in a country other than the United States. In that period, only 114 were first introduced in the United States. France, West Germany, Japan, Italy and Great Britain were all ahead of the United States in number of drugs first introduced.

Several products introduced in the United States within the last three years have been approved and sold in Europe from two to fifteen years earlier. Upjohn's Halcion was marketed in the United Kingdom three years before United States approval. Stuart's Tenormin had a five year headstart in the United Kingdom and West Germany and a two year headstart in Switzerland. Knoll's product Isoptin was in use in Italy and West Germany more than 15 years before United States introduction.

Under the current Federal Food Drug and Cosmetic Act, United States firms cannot export new drugs such as these for sale abroad even to countries with approval systems similar to that of the United States, until they have been approved for sale in the United States itself. In effect, the Act also prevents United States firms from exporting products which will never even be submitted for approval in the United States because they treat diseases which do not exist here. A tropical disease such as river blindness is an example.

Of all the major drug-producing countries in the world (United States, Japan, Switzerland, Germany, France, and the United Kingdom), only the United States maintains such a restrictive export policy.

The result is that American companies who wish to manufacture these products are forced to manufacture them abroad. This results in the export of technology and jobs. This situation benefits no one and has an obvious adverse impact on unemployment and our balance of payments. It can and should be corrected.

Amending current law to allow for the manufacture and shipment of drugs approved for sale in other countries but not yet approved in the United States is a laudable goal. It can be achieved with no risk to our citizens and with benefit to consumers in the importing countries.

Mr. Chairman, we understand that draft legislation is being considered which would specify certain criteria which must be met in order to export a product that has not received approval for domestic use.

First, export to foreign countries with sophisticated approval mechanisms similar to that of the United States would automatically be permitted if such export would not be in conflict with the laws of those countries. The Secretary of Health and Human Services would determine which countries are eligible, but the proposed legislation provides for adequate public input on that determination.

Second, for those countries without sophisticated approval mechanisms, the draft bill provides several protections. Before a product may be exported to such a country, it must first be approved in at least one country on the list of foreign countries to which export is automatically permitted. The labeling used in the listed country must also be used in the unlisted country. A United States IND or application for an IND must exist for the product unless HHS has determined that the drug should nevertheless be exported because of particular diseases or health conditions in the countries of export that do not exist in the United States. The drug must not be the subject of a notice of determination that its export is contrary to the public health and safety of the foreign country. And lastly, an official of the foreign country must provide in writing that the drug may lawfully be offered for sale in the country. The draft also provides that foreign governments should be notified of significant United States regulatory decisions and promptly provided requested information pertaining to a product. These protections, in addition to the other protections currently contained in Section 801(d) of the Food and Drug Law, should assure that the export of inappropriate products does not occur.

Some critics have suggested that United States standards are superior to all others and that therefore a product not approved for sale here should be unavailable to anyone else anywhere in the world. A strict paternalistic approach by this country to the health care needs of foreign countries is neither in our interests nor consistent with the wishes of other sovereign states. We believe that the approach of the draft bill adequately balances the ethical concerns of exporting products not yet approved in this country with the right of others to make their own decisions. At the same time, it would provide United States manufacturers the ability to produce products here rather than abroad.

We support these goals and urge prompt consideration of this proposed legislation.

The **Chairman.** Mr. Robson.

Mr. **Robson.** Thank you.

Mr. Chairman, I appreciate the opportunity to offer a few remarks on S. 2748. My name is John Robson; I am executive vice president and chief operating officer of G.D. Searle & Co., a manufacturer of pharmaceuticals and other products headquartered in Skokie, IL. I am also a member of the board of directors of the Pharmaceutical Manufacturers Association.

Hopefully, my brief remarks will provide the committee with some additional perspective from the viewpoint of a pharmaceutical executive whose company will be directly affected by the legislation you are considering.

Perhaps, too, the fact that I have served in a number of posts in the Federal executive branch has provided me with perspective on the legislative process that influences my views on the subject before the committee.

My company supports this legislation. We believe that the issues involved have been thoroughly considered, and that the time has come for Congress to act. I do not mean to suggest that the legislation is an unmixed blessing. It isn't. Indeed, as a pharmaceutical company with one of the higher percentages of patent-expired drug products, Searle could feel the effect of the ANDA portions of the legislation directly.

On the other hand, Searle spends over $100 million annually on research and development, primarily to discover and to develop new pharmaceutical products. We believe that the patent restoration portions of the bill will benefit us by providing incentives to continue a commitment to research and development, a commitment that ultimately benefits not only the shareholders of Searle, but the public, through new and improved drug therapies.

So we have weighed the substantive pluses and minuses of the legislation and concluded that, on balance, it is a good bill and should be enacted.

I would be happy to answer any questions you have, Mr. Chairman. Thank you.

The **Chairman.** Thank you so much.

We will now turn to Mr. Haddad. We look forward to taking your testimony, sir.

## STATEMENT OF WILLIAM F. HADDAD, PRESIDENT AND CHIEF EXECUTIVE OFFICER, GENERIC PHARMACEUTICAL INDUSTRY ASSOCIATION

Mr. **Haddad.** Thank you, Mr. Chairman. I will also abbreviate my testimony and submit it for the record.

The **Chairman.** Thank you.

Mr. **Haddad.** Senator, for those who don't know it, it was your timely intervention in the negotiating process which made this complicated, delicately balanced compromise possible.

Senator Hawkins, it was the involvement of two of your colleagues from Florida, Congressmen Shaw and McCollum, responding to the senior citizens of your State, that helped to bring us to the negotiating table. It was their courageous intervention last year that enabled us to come to the negotiating table.

My name is William Haddad. I am president and chief executive officer of the Generic Pharmaceutical Industry Association. Our members manufacture and sell approximately 85 percent of the country's low-priced generics. Generic drugs, as you know, are approved by the Food and Drug Administration as therapeutically equivalent to the brand name pioneer product.

However, our industry only supplies 20 percent of all generic drugs. Eighty percent are sold by brand name conpanies: Lilly, Pfizer, Warner Lambert, SKF, American Cyanamid. GPIA members, however, actually manufacture generic drugs for these brand name companies.

The GPIA board of directors supports S. 2748. We believe that Congress has fashioned a delicately balanced, pragmatic, workable and equitable compromise in the public interest. As a result, the size of the generic market will double, and prices of off patent drugs will quickly be cut in half as competition increases. Some prices will drop to a tenth or a twentieth of what they are today, without any reduction, as Dr. Novitch has indicated, without any compromise of safety and effectivess standards. These are not insignificant consequences for the American family. There is no third-party subsidy for 8 out of every 10 prescriptions filled in America. It comes from hard cash, difficultly earned.

For the chronically ill, the elderly, and families with children, the cost of medicine accounts for a sizable portion of their budget. Many elderly Americans are forced to make triage decisions at the end of each month: Do they buy food or do they buy medicine? Many stretch out their drug dosages or stop taking them.

Approval of this proposed legislation will make that choice unnecessary for many elderly Americans. It will also bring enormous savings to the Federal Government. The first people in line to buy generic drugs are the institutions of State and Federal Government and the private and public hospitals. And, as you will note later in my testimony, I give you an example of what those price changes mean.

But having said all of this, let me again emphasize that this is a delicately balanced compromise of sharply conflicting views. It is finely tuned and can be easily suspended if the door is opened to amendments to benefit special concerns.

The dissident companies that now seek to rewrite this legislation were, as Mr. Engman indicated, at the highest levels of their corporation, involved in suggesting and implementing changes in their self-interest, which were accommodated in this legislation. We disagree with some of those changes. But it was decided by the drafters of this legislation that the public interest in compromise was best served by their inclusion.

When the process was completed, the board of directors decided by a two-to-one vote to support that compromise. The compromise is supported by both major senior citizens organizations in the United States, by the AFL-CIO and other unions, by consumer representatives, by the co-sponsors of the PMA patent restoration legislation, Senator Mathias and Congressman Synar, and by principal opponents of that legislation, Senator Kennedy and Congressmen Waxman and Gore. They are joined by cosponsors of patent restoration, Senator DeConcini and Congressman Madigan. As you indicated, Senator, it is quite a group in an election year, to have that kind of compromise that brings these people to the table in an election year.

The congressional resolution of this issue is vital to our industry. For drugs which entered the market prior to 1962, the FDA has an equitable and predictable procedure for approving generic drugs and ensuring their safety and efficacy. The requirements extend to the manufacture of the drugs themselves. The good manufacturing practices standard is uniform for all drug companies. Over 3,000 drugs have been approved by the ANDA process. There have been no problems. Millions of Americans use those drugs every day.

For reasons which I continue to label as political and not scientific, the same procedure is not used for post-1962 drugs, and I think Mr. Novitch stated better than I can what that has caused.

The new compromise legislation wipes out the bureaucratic distinction between pre- and post-1962 drugs, and assures that as soon as a patent on a drug expires, the generic equivalent will be approved and marketed promptly. Currently, FDA estimates about 160 drugs fall into the category of post-1962 patent expired. Wall Street estimates that this is $2.5 billion of drugs. Another $2 billion will come off patent shortly and be subject to competition.

In my statement I attach the New York Times editorial which names two drugs which will be affected by this legislation. Sales of those drugs equal $1.5 million a day. Since they have been in the market for 20 or so years, much of that money is pure profit. And none of that is subject to competition, and it is the senior citizens and the families and the chronically sick that pay for those drugs.

I would like to quickly address the issues raised by the dissident companies. They argue that this will provide a burden to FDA, as Mr. Novitch has argued. But let me give you the other side of that equation.

First, generic drugs now go through an enormously complicated new drug application procedure at FDA, tying up resources unnecessarily. All of those resources will be freed up immediately to approve new drugs.

Second, I want to give you an example of what this legislation you are considering means. One drug, metronidazole, is purchased by the Department of Defense. In 1980, the single source price for 250 milligram tablets in bottles of 250 was $53.20. When a generic entered the market, the price dropped to $32. A few months later it dropped to $28. In May 1983 a second generic company came in and the price dropped to $26. Finally, the price was $19.67. The saving on one dosage form of one drug for one department of government for 1 year was $1.1 million, which is what the Congressional Budget Office estimates FDA will need per year to implement its staff.

The dissidents argue that valuable trade secrets will be made available to foreign competition by this act. Actually, that is not true, Senator. Nothing changes. In fact, it is strengthened, that provision of the law. We don't want to give the Japanese and the Germans any more advantage than they already have, and this legislation does not do that. What they are asking for is something that is not now in the law.

The dissidents argue that the FDA safety and efficacy standards would be changed. Your questioning of Dr. Novitch indicates it is not true.

The dissidents argue that legislation encourages patent infringement. In fact, existing patent enforcement procedures will be altered, under this legislation, to provide PMA companies with advantages available to no other class of patent holders. GPIA prefers the law as it is today. When we challenge a patent today we take our chances within the legal system where, as you know, the penalties are draconian. If we infringe a patent, we may be required to pay the patent holder the profits he would have made if he had sold the drugs. These profits are so enormous that it could strip our companies of all their assets. I might note that if the company challenging an invalid patent is correct, there is no compensating penalty against the patent holder. And just for the record, we challenge very few patents because of the penalties and the costs involved. I believe that is a smokescreen.

The dissidents argue for more than one patent extension per drug. That would continue and magnify an abuse of the system which permits some drugs to have an exclusive market life of over 30 years. The last major drug that entered the market had an exclusive market life of 26 years. When valium comes off patent next year, it will have enjoyed 22 years of exclusive market life. When the forerunner of valium, librium, came off patent, the prices dropped from $15 to $1. To evergreen extensions would further delay competition and frustrate one of the two major goals of this compromise legislation.

From the outset, it was understood that generic companies would be able to take steps necessary for ANDA approval prior to the expiration of a patent, but not be permitted to sell that product until the patent expired. In part, this arrangement was intended to recognize that generic drugs, like pioneer drugs, must endure a significant regulatory delay. It was also intended to balance the proposed extension of patent life for branded drugs. This procedure and the ANDA process for post-1962 drugs were the basic elements of the generic industry's decision to support this legislation. In fact, that compromise involved generic company testing prior to patent expiration, and it was not an issue at that time. A court decision intervened and made it an issue.

Now the dissidents have concocted a pseudoconstitutional argument aimed at throwing a monkey wrench into this compromise machinery. Congressmen Kastenmeier and Synar demolished that argument yesterday, among other ways by pointing out that patent owners would not lose 1 day's profits during the life of a valid patent. The issue here is not a constitutional issue; it is a policy issue. Can we enhance postpatent drug competition—a political issue—and can a few big companies stop this progress?

In summary, while both the PMA and GPIA maintain our separate identities, and I am sure we will be on other sides of this table again, this is one time our particular interest and the public interest converge, and the Congress is to be applauded for leading the blind horses to this cool water.

Thank you.

[The prepared statement of Mr. Haddad follows:]

# STATEMENT OF WILLIAM F. HADDAD
# GENERIC PHARMACEUTICAL INDUSTRY ASSOCIATION
# JUNE 28, 1984

My name is William F. Haddad. I am President and Chief Executive Officer of the Generic Pharmaceutical Industry Association. Our members manufacture and sell approximately 85% of this country's low priced generic drugs. Generic drugs are approved by the Food and Drug Administration as therapeutically equivalent to the higher priced brand name counterparts. However, our industry supplies only 20% of all generic drugs. Eighty percent are sold at higher prices than ours by brand name companies ... Lilly... Pfizer... Warner-Lambert... SKF... American Cyamamid. GPIA members, however, actually manufacture generic drugs for the brand name companies. Our production-intensive membership tends to be closer to state-of-the-art manufacturing than research intensive companies.

The GPIA Board of Directors supports S. 2748, the Drug Price Competition and Patent Restoration Act of 1984. We believe the Congress has fashioned a delicately balanced, pragmatic, workable and equitable compromise in the public interest. As a result, the size of the generic market will double and the prices of off-patent drugs will quickly be cut in half; as competition increases, some prices will drop to one-tenth of their current prices without any reduction in FDA's safety and effectiveness standards. These are not insignificant consequences for the average American family. There is no third-party subsidy for 80% of the prescriptions filled in this country. For the chronically ill, the elderly and for families with children, the cost of medicine accounts for a sizeable portion of their budget. Many elderly Americans are forced to make triage decisions at the end of each month. Do they buy food or medicine? Many stretch out their drug dosages or stop taking them. Approval of this proposed legislation will make that choice unnecessary for many elderly Americans.

But -- having said that -- let me again emphasize this is a delicately balanced compromise of conflicting views. It is finely tuned and can be easily upended if the door is opened to amendments to benefit special interests. The dissident companies that now seek to rewrite this legislation were, at the highest levels of their corporations, involved in suggesting and implementing changes in their self-interests which were accommodated in this legislation. We disagree with some of those changes, but it was decided by the drafters of this legislation that the public interest was best served by their inclusion. When the process was completed the Board of Directors of the PMA decided by a two to one margin to reject the very points now being presented by the dissidents. That compromise was supported by the two national senior citizens organizations, by the AFL-CIO, by individual unions, by consumer representatives, by the co-sponsors of the PMA Patent Restoration legislation, Senator Mathias and Congressman Synar; and by principal opponents of that legislation, Senator Kennedy and Congress-

Waxman and Gore. They were joined by co-sponsors of patent restoration, Senator Di Concini and Congressman Madigan.

The Congressional resolution of this issue is vital to our industry. For drugs which entered the market prior to 1962, the FDA has an equitable and predictable procedure for approving generic drugs and ensuring their safety and efficacy. The requirements extend to the manufacturing of the drug itself. That Good Manufacturing Practices standard is uniform for all drug companies. Over 3000 drugs have been approved using this Abbreviated New Drug Application (ANDA) process. FDA reports there have been no problems with this procedure. Millions of Americans each day use generic drugs cleared by the pre-1962 process.

But for reasons which I continue to regard as political and not scientific, the same procedure is not used to approve drugs entering the market after 1962. These post-1962 drugs, when they entered the market, were approved as not only safe but effective. The safety and effectiveness of these drugs have been thoroughly confirmed in the market by the time they become candidates for competition. Several years ago we won the right in the courts to have generic versions of off-patent, post-1962 drugs approved by proving therapeutic equivalence and providing FDA with the published literature on safety, and effectiveness. This "paper NDA" was, at best, a "Mickey Mouse" procedure that has virtually excluded most post-1962 drugs from being approved, resulting in perpetual monopolies for off-patent drugs, and higher prices for consumers and the government. The new compromise legislation wipes out that bureaucratic distinction between pre and post 1962 drugs and assures that as soon as a drug patent expires, the generic equivalent will be approved and marketed promptly. Currently FDA estimates there are between 125-150 drugs on which patents have expired. Wall Street estimates this is a $2.5 billion market. Another $2 billion of drugs will shortly come off patent and, if you approve this legislation, will be subject to competition.

I am sure PMA will tell you what this compromise means to them, but we view it as providing them up to five years of extended patent life to take account of their complaints of delays in the approval process and certain protections to prevent frivolous patent challenges. Under this legislation the consumer gets almost immediate access to lower priced generic drugs. The consumer also benefits from the promise of the research intensive companies to invest their increased profits resulting from extended patent life in research that could lead to new or better cures for disease.

Finally, I would like to quickly address the several amendments the dissident companies have proposed. If enacted, they will undermine the basic soundness of this compromise. As I have noted earlier, each of these amendments has been considered and rejected by the PMA's Board of Directors.

The dissidents argue that this legislation will create a heavy burden at FDA. But even if that were true, any additional staff costs would be provided many times over by the government's savings on its own drug purchases as a result of this legislation. One of the many examples is metronidazole purchased by the Department of Defense. In April 1980 the single source price for 250 mg tablets was $53.20 for bottles of 250. In May 1982 when a generic company entered the market, the price dropped to $32.00; a few months later it dropped to $28.00 In May 1983, the branded company dropped its price to $26.67; a few months later, when the second generic company entered the market, the price dropped to $19.67. That is, I think you will agree, how the American free enterprise system should work. DOD saved $1,161,774. on that one contract, approximately what FDA estimates it might cost to finance any expansion required by this legislation.

The dissidents argue that valuable trade secrets will be made available to potential foreign competition. Actually, this legislation does not weaken current procedures for disclosure; in fact, it tightens them.

The dissidents argue that FDA safety and efficacy standards will be weakened. That is simply untrue. Over 3000 pre-1962 drugs have already been approved using the ANDA process. That efficient and effective process will now be extended to cover post-1962 drugs. What was administration procedure, now will become law.

The dissidents argue that the legislation encourages patent infringement. In fact, existing patent enforcement procedures will be altered under this legislation to provide PMA companies with advantages available to no other class of patent holders. GPIA would prefer the law as it is. When we challenge a patent today we take our chances within the legal system where, as you may know, the penalties are - draconian. If we infringe a patent, we may be required to pay the patent holder the profits he would have earned if he and sold the product. These profits are so enormous, they could require a company to give up all its assets. I might note that if the company challenging an invalid patent is correct, there is no compensating penalty against the patent holder.

The dissidents argue for more than one patent extension per drug. That would continue and magnify an abuse of the system which permits some drugs to have exclusive market lives of over thirty years. The last major drug to enter the competitive marketplace had an exclusive market life of over

26 years. When Valium comes off patent next year it will have enjoyed 22 years of exclusive market life. When Librium, Roche's forerunner to Valium, came off patent, prices dropped from $15 to $1. To evergreen extensions would further delay competition and frustrate, one of the two goals of this legislation.

From the outset, it was understood that generic companies would be able to take the steps necessary for ANDA approval prior to the expiration of a patent, but not be permitted to sell that product until the patent expired. In part this arrangement was intended to recognize that generic drugs, like the originator's drugs, must endure a significant regulatory delay. It was also intended to balance the proposed extension of patent life for branded drugs. This procedure and the ANDA process for post-1962 drugs were the basic elements of the generic decision to support this legislative compromise. Last January, PMA agreed, without dissent, to support those basic requirements of compromise.

The fact that the compromise involved generic company testing prior to patent expiration was not a major issue, because of the general belief, reflected in common practice, that patent rights did not extend to such activity. Only after the unprecedented decision in Roche v. Bolar did the handful of dissident companies seek to abandon this part of the compromise while retaining all of the other benefits of the agreement. Their position was rejected by the PMA majority. Now the dissidents have concocted a psuedo-constitutional argument aimed at throwing a monkey wrench into the compromise machinery. Congressmen Kastenmeier and Synar demolished that argument yesterday, among other ways by pointing out that the patent owner will not lose one day's profits during the life of a valid patent under this bill. The issue here is not a constitutional issue. It is a policy issue - can we enhance post-patent drug competition - and a political issue - can a few big companies stop that progress?

In summary, while both the PMA and GPIA maintain our separate identities and conflicting preferences --- I am sure we will be before Congress again as adversaries --- this is one time our particular interests and the public interests converge, and the Congress is to be applauded for leading the blind horses to this cool water.

U.S. DEPARTMENT OF DEFENSE PROCUREMENT

Metronidazole 250 mg. Bottles of 250

Procurement History

| AWARD | | | OTHER BIDS | |
|---|---|---|---|---|
| Date | Contractor | Price/Bottle | Bidder | Price/Bottle |
| April 1980 | G.D. Searle | $53.24 | | |
| Sept. 1981 | G.D. Searle | 53.24 | | |
| May 1982 | Zenith Labs | 32.00 | G.D. Searle | $69.74 |
| Sept. 1982 | Zenith Labs | 28.00 | G.D. Searle | 69.74 |
| Feb. 1983 | G.D. Searle | 26.40 | Zenith Labs | 26.60 |
| April 1983 | Cord Labs | 19.67 | | |

As a result of generic competition beginning May 1982, the Department of Defense has saved $1,161,774, using G.D. Searle's price of $69.74. This is the price the Department of Defense would have paid if there were no generic approvals.

The **Chairman**. Mr. Haddad, that was a fairly hard-hitting statement there, I think.

Mr. **Haddad**. I toned it down. [Laughter.]

The **Chairman**. You did? I figured as much, having met with you in the past. [Laughter.]

Mr. Ingram, we will turn to you.

## STATEMENT OF ROBERT A. INGRAM, VICE PRESIDENT FOR PUBLIC AFFAIRS, MERRELL DOW PHARMACEUTICALS, INC., ACCOMPANIED BY C. JOSEPH STETLER, DICKSTEIN, SHAPIRO & MORIN

Mr. **Ingram**. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, I am Robert Ingram, vice president for public affairs of Merrell Dow Pharmaceuticals, Inc., of Cincinnati, OH. I am accompanied by C. Joseph Stetler, our legal counsel, with the firm of Dickstein, Shapiro & Morin, here in Washington, DC. We are appearing in support of legislation which would authorize the export of new drugs that have been approved in specific countries but which have not yet been approved by the U.S. Food and Drug Administration.

We appreciate very much, Mr. Chairman, the opportunity to present our views on the favorable impact which we believe the removal of the present pharmaceutical export restriction would have on U.S. jobs, tax revenue, capital investment, and the U.S. balance of payments.

As requested, I will summarize my remarks. I do appreciate your including my entire prepared statement in the printed record.

In summary, I will comment primarily on the effects of the current restriction on our company and how we have attempted to deal with it.

As you know, under FDA regulations, we are precluded from shipping new drugs overseas until they are approved for marketing in the United States, even when the drug in question is approved by the relevant government authority of the importing company.

This ban on exports which, to our knowledge, does not exist in any other of the major drug producing countries in the world, is particularly troublesome because in the vast majority of instances, a new drug is approved in other major industrial countries well before it is approved for marketing in the United States. In the interim, the only way a U.S. firm can sell its new drugs in those countries where they are approved is to set up manufacturing facilities abroad. This, of course, results in the loss of American jobs and American capital, and has a negative impact upon the U.S. balance of trade.

To better understand why the restriction is so frustrating, it is helpful to know how a global pharmaceutical company operates. To begin with, it is normal for most major companies to have a tableting, encapsulating and filling plant in the principal countries in which they operate. On the other hand, most have only a few active ingredient facilities which can manufacture sufficient quantities of active ingredients to supply all of their formulation facilities. Merrell Dow's major active ingredient plants are located in

France and Italy, with minor facilities located in the United States, Argentina, and Spain.

We have had a particularly frustrating situation over the past several years because of a new product which we launched in Europe in 1981. Since that time, the product has been marketed in most major countries, with the exception of the United States and Japan. We have been manufacturing the active ingredient for this product in a plant in Europe which is now running at capacity. To ensure that we continue to have sufficient supplies, we are making some active ingredients and intermediates in two other plants, one located in Italy and another in Argentina, both far removed from our U.S. technology centers.

The frustration comes when our chemical engineers here in the United States tell us that we have sufficient plant capacity to supply existing world requirements at a much lower cost. Our response is that they must sit tight, because current FDA regulations prohibit us from manufacturing this active ingredient for export.

In addition, we look at the new products in our R&D pipeline, and find that some of them will call for very large volumes of active ingredients. A key question we must address is where should we manufacture these new products? Our preference now, and no doubt in future cases, would be to expand or build new facilities here in the United States. We need to have the current restriction lifted in order to accomplish this goal.

There is, of course, another aspect. We also have the capacity and the expertise at our Cincinnati, OH, plant to manufacture finished tablets and capsules. At the present time, we cannot export one tablet or one capsule of the product that was first launched globally back in 1981 because of the current restriction. By removing the restriction, we could immediately shift this production to Cincinnati, thus creating new jobs and new capital expenditures.

We believe this legislation would continue to foster public health protection while effecting a major improvement in the U.S. regulation of international drug trade. Its enactment would impact favorably on the balance of payments, and permit termination of the present needless export of American technology, jobs, and capital investment at a time of increased worldwide competition.

We urge the committee, therefore, to give favorable consideration to this legislation. We would be happy to respond to questions.

The CHAIRMAN. Thank you so much.

[The prepared statement of Mr. Ingram and responses to questions submitted by Senator Hatch follow:]

## Testimony on The Drug Export Amendments of 1984

Presented By

Robert A. Ingram, Vice President for Public Affairs
Merrell Dow Pharmaceuticals Inc.

Committee on Labor and Human Resources
United States Senate

June 28, 1984

Mr. Chairman and Members of the Committee:

I am Robert A. Ingram, Vice President for Public Affairs of Merrell Dow Pharmaceuticals Inc. of Cincinnati, Ohio. I am accompanied by C. Joseph Stetler, our legal counsel with the firm of Dickstein, Shapiro & Morin, here in Washington, D.C. We are appearing on behalf of Merrell Dow in support of legislation, which would authorize the export of new drugs, that have been approved in specific countries, but which have not yet been approved by the United States Food and Drug Administration.

We appreciate very much, Mr. Chairman, the opportunity to present our views on the favorable impact which we believe the removal of the present restriction would have on U.S. jobs, tax revenue, capital investment and the U.S. balance of payments.

As you know, under current FDA regulations we are precluded from shipping new drugs overseas until they are approved for marketing in the U.S., even when the drug in question is approved by the relevant government authority of the importing country.

This ban on exports, which, to our knowledge, does not exist in any other of the major drug producing countries in the world, adds nothing to the protection of public health yet is having a significant adverse impact upon the U.S. economy and on the international competitive position of American drug firms. The problem is particularly troublesome because in the vast majority of instances a new drug is approved in other major industrial countries well before it is approved for marketing in the United States.

It is not unusual for several years to elapse between the time a new drug is approved and marketed overseas and its final approval in the United States. In the interim, the only way a U.S. firm can sell its new products in those countries where they are approved is to set up manufacturing facilities abroad. This, of course, results in the loss of American jobs and American capital. It also has a negative impact upon the U.S. balance of trade.

Moreover, these adverse effects are not necessarily mitigated once the FDA finally approves a pharmaceutical product. By the time such approval is obtained, foreign production is well underway and frequently continues to be the location from which the foreign, and sometimes the U.S. market, is supplied. This is an important point; to further clarify its significance, I will restate it in a different manner. Once a foreign plant is built, upgraded or expanded and foreign employees have been hired and trained, there is no reason or need to duplicate these facilities and jobs here in the United States.

It is well and good to think of our drug approval system as the best in the world, but we must also recognize that many countries have very sophisticated counterparts to our Food and Drug Administration, each quite capable of making their own risk/benefit analyses. Additionally, the unique conditions in other countries, such as exploding population growth or epidemics of insect-borne disease, on occasion, make American approval standards inappropriate. Also it is unreasonable to expect manufacturers to obtain FDA approval for products, such as drugs for the treatment of tropical diseases, for which no U.S. use exists.

In considering this subject it is important to review the export status of other related products as well as previous legislative efforts to remove the drug export restriction.

Antibiotic products and medical devices are treated differently from drugs in general and as far as we know without major problems or adverse effects.

Antibiotic drugs for human use, not approved for marketing in the United States, may be exported to foreign countries where they are permitted to be marketed if they meet the specifications of the foreign purchaser, do not conflict with the foreign law, are labeled for export, and are not sold in domestic commerce.

In 1976, when the Medical Devices Amendments to the Food and Drug Act were considered and enacted, the House version of the bill permitted the export of unapproved medical devices and new drugs under certain conditions. Although the export of devices was approved, the authorization with respect to new drugs was dropped in Conference.

In 1978, the Congress and particularly this Committee gave extensive consideration to the Drug Regulatory Reform Act. That legislation included a provision that would have authorized the export of new drugs under certain conditions and the requirement of preapproval by the FDA would have been removed. This legislation passed the Senate in 1979, but did not pass the House.

In our opinion, the present proposal would solve the current dilema faced by U.S. pharmaceutical firms under circumstances that would protect the health and safety of both American and foreign citizens.

Under the proposal:

(a) Exports would be permitted to specified countries where the drug in question has been approved for marketing. These nations initially would include the United Kingdom, West Germany, France, Switzerland, Canada and Japan, all of which have highly efficient drug regulatory systems.

(b) An unapproved drug could be exported to a country not listed, only if the drug was under clinical investigation in the U.S. and was approved in at least one of the listed countries and was labeled accordingly.

(c) Several additional conditions and safeguards would be specified for exports to an unlisted country, all designed to provide further protection.

(d) Finally, reports would be required to foreign governments concerning U.S. regulatory actions or other relevant information with respect to drug products, including the United States approved labeling once the drug receives marketing approval in the United States.

Now, Mr. Chairman, I would like to indicate some of the specific effects of the current drug export restriction on Merrell Dow Pharmaceuticals and how we have attempted to deal with them.

To better understand why the restriction is so frustrating, it is helpful to know how a global pharmaceutical company operates. To begin with, it is normal for most major companies to have a tableting, encapsulating and filling plant in the principal countries in which they operate. On the other hand, they have only a few active ingredient facilities, which can manufacture sufficient quantities of active ingredient to supply all of their formulation facilities. Merrell Dow's major active ingredient plants are located in France and Italy with minor facilities located in the United States, Argentina and Spain.

In considering the introduction of a new product, proper planning and anticipated results would include:

1. The introduction of such product outside the U.S. before it can be marketed in the U.S. The lead time is usually 2-4 years.

2. For every pound of active ingredient manufactured, the purchase of approximately 80 to 100 pounds of other starting materials, e.g., solvents, reagents, etc. is required.

3. In addition, regardless of the manufacturing site, these products have to be shipped via rail, truck, air, ship, etc.

4. Although the number is hard to estimate, it is obvious that, under the current restriction, our industry must employ hundreds of skilled and unskilled workers overseas -- jobs that would otherwise be filled by U.S. workers.

All of the above has meant great frustration to Merrell Dow over the past three years, much of it centered around a new product, which we launched in Europe in 1981. Since that time, the product has been marketed in most major countries, with the exception of the U.S. and Japan.

We have been manufacturing the active ingredient for this product in a plant in Europe, which is now running at capacity. To ensure that we continue to have sufficient supplies, we are making some active ingredients and intermediates in two other plants, one located in Italy and another in Argentina. The frustration comes when our chemical engineers here in the United States tell us that we have sufficient plant capacity to supply existing world requirements at a much lower cost. Our response is that they must sit tight because current FDA regulations prohibit us from manufacturing this active ingredient for export.

We are trying to cope with this situation by utilizing other plants (such as the one in Argentina). It is difficult, however, when they are far removed from our U.S. technology centers. We foresee that very soon we must build a new plant or substantially upgrade an existing one in order to meet our requirements.

In addition, we look at the new products in our R&D pipeline, and find that some of them will call for very large volumes of active ingredients. A key question we must address is where should we manufacture these new products? Our preference now and no doubt in future cases, is to upgrade, expand or build new facilities here in the U.S. We need to have the current restriction lifted in order to accomplish this.

There is, of course, another aspect. We also have the expertise, at our Cincinnati, Ohio plant to manufacture finished tablets and capsules. At the current time, we cannot export one tablet or capsule of the product that was first launched globally back in 1981 because of the current restriction.

Our U.S. plant in Cincinnati, Ohio has additional capacity. By removing the export restriction we could immediately shift this production to Cincinnati, thus creating new jobs and new capital expenditures.

We believe this legislation would continue to foster public health protection while effecting a major improvement in the U.S. regulation of international drug trade. Its enactment would impact favorably on the balance of payment and permit termination of the present needless export of American technology, jobs and capital investment at a time of increased worldwide competition. We urge the Committee, therefore, to give favorable consideration to this proposal. If there are any questions we would be happy to respond to them.

(Sen. Hatch)

QUESTION FOR MR. INGRAM

YOUR TESTIMONY STATES "OUR PREFERENCE WOULD BE TO EXPAND OR BUILD NEW FACILITIES HERE IN THE U.S." PATRIOTISM ASIDE, WHY DO YOU PREFER TO INVEST IN THE U.S.?

Mr. Chairman:

Patriotism aside, we prefer to invest here in the United States because it's simply good business for us as well as beneficial for the United States economy.

As we stated in our testimony, we currently have reached capacity at our plants overseas. In order to handle increasing volume requirements for current products plus new volume requirements for products in the R&D pipeline we must make a decision now to expand or build new manufacturing facilities. Our choice is whether to expand the existing facilities overseas or do it here in the United States. Our preference would be to expand existing facilities here in the United States as they offer us much lower cost in terms of production costs and at the same time utilize existing facilities and manpower in a much more productive fashion.

The end result would be that our manufacturing would be consolidated with our current U.S. technology centers thus utilizing our total employee base more productively. We would also be creating new jobs at both the Midland Michigan and Cincinnati Ohio facilities. Thus aiding the economy in both of those locations through new tax revenue and capital expenditures.

The CHAIRMAN. Mr. Swanson, we will be happy to take your testimony.

## STATEMENT OF ROBERT A. SWANSON, PRESIDENT, GENENTECH, INC.

Mr. SWANSON. Mr. Chairman, members of the committee, I am Robert Swanson, and I am president of Genentech, Inc., a biotechnology company principally concerned with the manufacture of pharmaceutical products.

I am not going to talk about patent term restoration today, although I will submit comments on the subject to your staff.

My testimony is about export restrictions on new drugs. I would like to discuss how current prohibitions on the export of new drugs to foreign countries have a significant adverse impact on the biotechnology industry in this country and upon the U.S. economy as a whole. I would also like to discuss the proposed amendment, which we enthusiastically endorse, and which we believe will alleviate the problems created by the present law.

First, let me tell you a little bit about Genentech and the biotechnology industry. Since its founding in 1976, Genentech has grown to a firm employing some 600 people. It has genetically engineered several important products for medical use: TPA—a substance that dissolves blood clots which cause heart attacks; gamma interferon—an anticancer and antiviral agent; human insulin for the treatment of diabetes; human growth hormone; factor VIII—an essential blood clotting factor missing in hemophiliacs; and most recently, lymphotoxin—a promising anticancer agent.

Last year alone, we spent $37 million on research and development.

The biotechnology industry has grown with enormous speed from its beginnings in the mid-1970's to over 200 companies in the United States today. Because of the public investment in basic biological research through the NIH and other agencies, and strong U.S. entrepreneurial spirit, our country leads the world in this new technology. However, international competition is increasing rapidly, with new biotechnology companies actually being formed by foreign governments, and active targeting of this industry by Japan and Western Europe.

The export restrictions which are currently in effect have a serious adverse impact on the biotechnology industry in this country. Under existing law, no drugs or biological products may be exported from the United States until the FDA has already granted approval for their marketing within the United States. This prohibition applies even when the product has already been approved by the foreign governmental authorities.

For example, we would not be able to export a medical product for use in Japan unless the FDA has first completed its approval for use here, even if the product has already been through the extensive and sophisticated approval process in Japan. No country in the world, other than the United States, imposes these restrictions.

The current situation results in the loss of American jobs and the transfer of technology out of this country. It also seriously jeopardizes this Nation's competitive advantage in biotechnology. Genentech, for example, has recently constructed in South San Francisco the most advanced recombinant DNA facility in the world, at a cost of tens of millions of dollars. Because of restrictions in existing law, Genentech will not be able to export the products made in this facility to major pharmaceutical markets in Western Europe, Canada, and Japan unless the products have been approved first within the United States.

To reach these markets before our competitors would require the construction of a new factory overseas, an option we simply cannot afford.

In recent years, the export restrictions have been widely criticized by the U.S. Government itself for the reasons I have explained. Both Houses of Congress have examined these restrictions and have recommended that they be removed. Unfortunately, both Houses have not acted at the same time.

The proposed amendment is similar to legislation passed by the Senate in 1979, and closer still to a bill passed by the House in 1976. The Senate committee report accompanying the 1979 legislation stated, "the current export policy drains technology, capital and jobs in the United States." Others agree, including the FDA, the Department of Commerce, and the Office of Technology Assessment which, itself, stated that "U.S. policy results in the transfer of technology, loss of employment opportunities for U.S. workers, and lost opportunity to help U.S. international balance of payments."

Mr. Chairman, I understand that your staff has proposed an excellent amendment that resolves the problems created by the current restrictions on the export of new drugs. This proposal will permit the export of drugs not yet approved in the United States, while maintaining protection against any danger to the health or safety of either American or foreign citizens. Any danger that inferior products will be dumped on Third World nations is clearly avoided by the safeguards in the proposal. Under the proposal, exports would be permitted principally to developed nations that have already the sophisticated regulatory processes governing drug products. Only drugs previously approved by one of these countries would be available for export to any other country.

Mr. Chairman, we believe that there is a compelling case for approval of a bill along the lines of the staff proposal. It will help stimulate an important U.S. industry, keeping our technology and our jobs at home. We hope that Congress will enact this amendment in the near future.

Thank you very much.

The **Chairman**. Thank you so much.

[The prepared statement of Mr. Swanson follows:]

Genentech, Inc.

[illegible]

STATEMENT OF

ROBERT A. SWANSON
PRESIDENT
GENENTECH, INC.

BEFORE THE

SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES
TO
PROMOTE AN AMENDMENT TO THE
FEDERAL FOOD, DRUG AND COSMETIC ACT
PERMITTING EXPORT OF UNAPPROVED NEW DRUGS

June 28, 1984

**Genentech, Inc.**

[illegible]

## STATEMENT OF ROBERT A. SWANSON

Mr. Chairman, and members of the committee, I am Robert A. Swanson and I am the President of Genentech, Inc., a biotechnology company principally concerned with the manufacture of pharmaceutical products. I appreciate this opportunity to discuss the impact of the current prohibition on the export of unapproved new drugs to foreign countries that have already approved them. 1/ Genentech believes that the existing prohibitions have a significant adverse impact upon the biotechnology industry in this country and upon the U.S. economy as a whole. We, therefore, urge adoption of an amendment to the law which will alleviate the problems created by the present law.

### The Biotechnology Industry

Before proceeding to describe the deficiencies in the existing law and our proposal to overcome them, permit me to

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1/ This testimony relates only to the drug export issue. Genentech - and other members of the biotechnology industry - also have concerns with respect to the applicability of provisions of S. 2748. We shall convey these concerns to the Committee in separate communications.

discuss both Genentech and the biotechnology industry. Genentech was founded in 1976 by myself and Dr. Herbert Boyer, a scientist who three years earlier had successfully performed the first gene splicing experiment. Since then, Genentech has grown to a firm employing some 600 persons. It has genetically engineered several important products for medical use: TPA -- a substance that dissolves blood clots which cause heart attacks; gamma interferon -- an anti-cancer and anti-viral agent; human insulin; human growth hormone; Factor VIII -- an essential blood clotting factor missing in hemophiliacs; and most recently, lymphototoxin -- a promising anti-cancer agent.

Other biotechnology companies have been engaged in the production of vaccines for viral, bacterial, and parasitic diseases; improved antibodies with superior ability to detect chemical compounds and microorganisms in order to diagnose and treat diseases; and advancements in plant agriculture, including the transfer of desirable traits from one plant to another. There also are many potential environmental applications of genetic engineering, including enhancement of oil and mineral recovery, pollution control, toxic waste degradation, and crop frost resistance. 2/

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2/ —Office of Technology Assessment of the Congress of the United States, Commercial Biotechnology: An International Analysis, (U.S.G.P.O. January 1984) 6-7 and passim. (hereinafter OTA Report).

Clearly, genetic engineering has great potential to benefit mankind. It is reasonable to expect that the fruits of genetic engineering, even in the short term, will improve the diagnosis and treatment of many diseases, will positively affect the environment, and will improve the world's food supply. Genetic engineering may be used not only as a substitute for conventional methods of manufacture, but also may be used to produce unprecedented amounts of scarce or previously unavailable biological compounds.

Since 1976, the new biotechnology industry has grown with enormous speed. Currently, 219 companies in the United States are pursuing applications of genetic engineering. By far the greatest emphasis in the biotechnology industry is on pharmaceuticals, with over 62% of genetic engineering companies applying their technology in that area.

The biotechnology industry is roughly divided between new small firms and more diversified and established large firms. The industry now stands at a significant point in its development. The present time is particuarly important for the small firms, which provide twenty-four times as many major innovations per R&D dollar as do the larger firms. 3/ Financed largely through venture capital investments, public offerings, limited partnerships and equity investments from large firms, no

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3/ OTA Report at 91-92

no small firm yet has obtained income from product sales equaling even 5% of its total revenues.

The financial strain upon these small firms is related to the staggering expense and complexity of product development in this industry. Human insulin, the only recombinant DNA product that has been approved, required over 5 years to reach the market after it already had been successfully cloned. Plant costs exceeded $70 million and other expenses were well into the tens of millions of dollars. It took over 1,000 man years to bring the product through the various stages of development, starting with fermentation scale-up and purification, through animal testing and human testing, and, finally reaching FDA marketing approval.

In response to their need for capital and their inability to begin worldwide marketing, many of the small U.S. firms have begun to license their products overseas. International licensing generates the cash which is necessary for survival. This development has been controversial because some of the firms have licensed their technology to foreign firms, allowing the products to be manufactured overseas. Genentech has been able to take a different approach -- manufacturing the products in the U.S., thus keeping the technology and the jobs here and selling only the final products in bulk to the foreign firms.

Another threat to the small firms -- a threat common to the entire genetic engineering industry -- is the keen international competition. The United States is currently the world leader, but our competitive advantage is fragile and diminishing. Japan is closing the gap at an alarming rate and is expected to catch us within two years. The Japanese government, as well as those of major competitors like Britain and West Germany, have targeted biotechnology as a key technology of the future and have made serious commitments to furthering its development. The European countries have a distinct advantage over companies in the United States because they are not subject to strict product approval regulation.

Simply stated, survival of many of the smaller biotechnology firms hinges largely on their ability to receive revenue by marketing their products. This in turn depends in large measure on their ability to compete for foreign markets -- principally Western Europe and Japan. We are already disadvantaged against our foreign competitors by a more time-consuming product approval process in the United States. The barriers to export of drugs which are not yet approved in this country exacerbates the situation.

## Existing Law and Legislative History

Under existing law, drugs and biological products may not be exported from the United States until the Food and Drug Administration (FDA) has granted approval for their marketing within the United States. 4/ This prohibition applies even

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4/ See §§ 201(b), 301(d), and 505(a) of the Federal Food, Drug and Cosmetic Act (for new drugs); § 351 of the Public Health Service Act (for biological products).

when the product in question has already been approved by the relevant governmental authorities of the importing country. Of all the major drug-producing countries in the world (the United States, Japan, Switzerland, Germany, France, and the United Kingdom), only the United States maintains these restrictions. 5/

Over the last several years, both houses of Congress have examined these restrictions, and both houses have recommended that the restrictions be removed. In 1976, as part of its revisions of the medical device law, the House adopted legislation to authorize the export of an unapproved new drug to any country with an appropriate health agency that has reviewed and approved the drug as safe for its intended use The legislation also authorized the export of unapproved new drugs to countries without appropriate health agencies, as long as the Secretary of the Department of Health and Human Services has determined that

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5/ This export prohibition applies only to unapproved "new drugs" and not to unapproved "drugs". Under section 801(d) of the Federal Food, Drug and Cosmetic Act, an unapproved "drug" may be exported if it accords to the specifications of the foreign purchaser, is not in conflict with the laws of the foreign country to which it is intended for export, is labelled as intended for export, and is not sold or offered for sale in domestic commerce. This distinction between "drugs" and "new drugs" apparently does not represent a policy decision; rather, there is strong evidence that it is the result of an inadvertent failure to provide conforming amendments during drafting of the 1938 amendment to the Federal Food, Drug & Cosmetic Act, which introduced the concept of "new drug" into law.

export of the drug is not contrary to public health and safety. The House provision was dropped in conference. 6/

Three years later, the Senate approved a similar provision as part of The Drug Regulation Reform Act of 1979. The Senate Committee report stated that "the provisions of current law which prohibit the export of drugs which are not approved for use in the United States should be altered." 7/ The Committee determined that an appropriate balance between permitting needed export of unapproved drugs and protecting public health would be struck as long as the foreign country approved the drug and the FDA determined that export was not contrary to the public health and safety of that country. This bill was never considered by the House.

Thus, both houses of Congress have accepted the need to remove the strict drug export restrictions, although the two chambers have failed to act upon this conviction simultaneously.

The Food and Drug Administration has also grasped the importance of altering the existing restrictive export policy in recently amending its rules which authorize the export of

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6/ See H. Conf. Rep. No. 94-1090, 94th Cong., 2nd Sess. at 65.

7/ S. Rep. No. 96-321, 96th Cong., 1st Sess. at 44. This bill abolished the distinction between "drugs" and "new drugs," and the alteration concerned "new drugs."

unapproved new drugs for investigational purposes. Acknowledging the need to "avoid compelling American firms to export new technologies abroad," the FDA recently removed the formalistic barriers to the export of investigational new drugs and biological products. 8/ Even with this welcomed change, however, only small quantities of unapproved products may be exported for investigational purposes. Of course, even this relatively minor adjustment to the export prohibitions is negated whenever the drug is approved by the importing country, since the exception only applies to experimental drugs.

## Impact of the Existing Law

Current law precludes the domestic production of new drugs for export and thus results in the loss of American jobs and domestic capital investment. As demonstrated below, this conclusion is not merely ours; it is a conclusion which the Senate, the House of Representatives, the Office of Technology Assessment, the Department of Commerce, and the Food and Drug Administration have all reached over the last decade:

- The Senate Committee Report accompanying the Drug Regulation Reform Act of 1979 stated that "[t]the current export policy . . . drains technology, capital, and jobs from the United States." 9/

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8/ See 49 Fed. Reg. 2095, January 18, 1984.

9/ S. Rep. No. 96-321 96th Cong., 1st Sess. at 44.

- In its 1976 assessment of the need to change our drug export policy, the [then] Interstate and Foreign Commerce Committee of the House of Representatives determined that "[b]ecause of the limitations of present law, U.S. manufacturers of [new drugs] which have been approved for use in foreign countries have constructed facilities in such countries in order to market their products." 10/
- The Office of Technology Assessment has concluded that the U.S. policy of restricting the export of unapproved drugs and biologics "results in the transfer of technology, loss of employment opportunities for U.S. workers, and lost opportunity to help the U.S. international balance of payments." 11/
- The Department of Commerce made the following statement in its recent analysis of the biotechnology industry: "The most important barrier to U.S. exports is FDA regulation preventing the export of any new drug until it has been approved for sale in the United States. This applies even if the product has been formally approved for marketing in the importing

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10/ H.R. No. 94-853, 94th Cong., 2nd Sess. at 57.

11/ OTA Report at 364.

> nation. With the delays that occur in obtaining FDA approval, U.S. firms have more incentive to manufacture new drugs abroad." 12/

The export restrictions seriously disadvantage the competitive position of the biotechnology industry in the international arena, and they foster the transfer of technology to our foreign counterparts. As the Office of Technology Assessment stated, "[i]n their joint ventures with large foreign companies, some [new biotechnology firms] in the United States are required to provide bulk products produced by the microorganism to the foreign partner . . . . If the U.S. firm is unable to provide bulk product, the foreign partner then has the right to obtain the organisms for its own use." 13/ The U.S. prohibition on the export of unapproved new drugs prevents biotechnology firms from supplying bulk products to a foreign partner. The prohibition, therefore, enhances the transfer of biotechnology to foreign countries because the foreign countries are given the ability to develop the bulk products themselves from the microorganisms which were genetically engineered in this country. This transfer of technology is not mitigated

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12/ Department of Commerce, An Assessment of U.S. Competitiveness in High Technology Industry.

13/ See OTA Report at 364.

once the U.S. finally approves the new drug or biological product because by the time U.S. approval is obtained, foreign production is already well underway. The foreign country continues to be the location from which world markets are supplied.

The current situation has a particularly harsh impact upon small businesses which have committed their resources within the United States. Genentech, for example, has recently constructed the most advanced recombinant DNA facility in the world at a cost of tens of millions of dollars. This facility is located in South San Francisco, California and will ultimately employ hundreds of people. Because of the restrictions of existing law, Genentech is not able to export the products made in this facility to the major pharmaceutical markets of Western Europe, Cananda and Japan, unless the products have been approved for use within the United States. It could reach these markets under current U.S. law only by distributing its products from a foreign facility.

Given the critical state of our economy, the U.S. government should be encouraging rather than discouraging domestic capital investment and job creation through expanded exports. It should also be encouraging the growth of the biotechnology industry. Forcing the United States to relinquish its lead in biotechnology to such major competitors as Japan clearly is not in the interest of the United States.

One of the major justifications for retaining the current law is that any change will result in the "dumping" of drugs on third world nations. Genentech has absolutely no intention of engaging in such abhorent, unethical behavior. We merely wish to pursue valuable and viable markets that have requested our product -- well-developed nations, with recognized health agencies, which have approved our product and desire to use it. In requesting amendments to the drug export law, we are seeking a law that comports with the normal marketing patterns of the overwhelming majority of new drugs. That is, they are first approved and marketed in developed countries, i.e., Western Europe, Canada, or Japan, all of which have highly sophisticated medical and regulatory systems. In most instances, it is years later, and after the product is approved in the U.S., that they are marketed in other parts of the world.

To withhold desired products from these developed nations would constitute a deplorable type of paternalism. Dr. Philip Lee, one of the most vocal and avid opponents of "dumping," states in his book The Drugging of the Americas that "neither the United States nor any other nation has a mandate or moral right to export its health policy to other countries, or to induce by whatever means any other country to adopt its own decisions, practices, customs, techniques or standards. The health policy decisions in each [country] must be made by those countries. Any attempt by a foreign nation to play the role of

Big Brother . . . would be idealistic, impractical and impertinent." 14/

Further, if it were the desire of our company to "dump," we would not support the legislative solution proposed in the draft amendment -- because the proposal will frustrate any such intent as to new drugs. The protections in the legislative proposal made available to us (and described in more detail below) preclude export of any new drug to third world nations unless there is, among other things, prior approval by a developed country, adequate product labeling, and prior notification of the United States government.

It must be recognized, moreover, that the current export restrictions do not provide protection against "dumping". The restrictions notwithstanding, if a country wishes to import a particular drug product not approved in the United States, it will do so from one of our many foreign competitors. Current law, therefore, will not prevent the product from reaching the foreign country but merely ensure that it does so without the benefit of the safeguards of the proposed amendment.

## Comments on the December 5, 1983 Proposed Amendment

Genentech has reviewed the December 5, 1983 legislative proposal which is intended to resolve the problems created by the

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14/ Lee, The Drugging of the Americas 131.

rrent restrictions on the export of new drugs. We heartly dorse the draft amendment as a balanced and effective approach the export issue. The proposal would permit the export of rugs not yet approved in the United States while maintaining rotection against any danger to the health or safety of either erican or foreign citizens. Under the proposal, exports would e permitted principally to a few developed nations that already ave sophisticated regulatory processes governing drug roducts. Only drugs previously approved by one of these ountries would be available for export to any other country. n all instances, the importing country would be required to ave previously approved the drug.

Moreover, the amendment would impose several additional onditions to safeguard the public health. First, no drug that as been banned in the United States could be exported. Second, o product in conflict with the laws of the importing nation ould be exported. Third, no drug could be exported unless abeled for export. This condition includes the requirement hat any unapproved new drug exported from the United States be ccompanied by United States labeling translated into the language of the country of import. Fourth, no product could be xported unless the Secretary of HHS or Agriculture has received otice of the intent to export and has ensured that all requirements have been fulfilled. Finally, export could not continue nless periodic reports to foreign governments on U.S. regulatory actions are provided by the U.S. government. These additional conditions bolster the basic protections of the proposal, which mandate that no new drug be exported until approved by the regulatory authorities of a developed country requiring adequate proof of safety and effectiveness.

## Conclusion

In summary, the restriction on the export of unapproved new drugs provides little benefit yet portends serious harm for both the nation and the pharmaceutical industry. The infant biotechnology industry is particularly vulnerable, especially the smaller, more innovative firms. The proposed amendment protects the industry and the nation, while preserving, or quite possibly increasing, the public health and safety. The proposed amendment is similar to one bill passed by the Senate and virtually identical to another bill passed by the House. Congress has already appreciated the need to alter the drug export laws in order to maintain a favorable trade balance, to encourage domestic placement of manufacturing facilities, and to retain valuable technology. These considerations have become imperative in the context of the biotechnology pharmaceutical industry.

The CHAIRMAN. Mr. Engman, you have been intimately involved in the negotiations over S. 2748 from the beginning. To give us some perspective on the effort and time which has gone into it to date, could you briefly sketch out the development of these negotiations?

Mr. ENGMAN. Well, Mr. Chairman, the whole concept of patent term restoration is one which we discussed with you and pursued in the last Congress. Although it was passed by the Senate, we fell five votes short on the suspension calendar in the House in September of 1982. Following that time, it was agreed that since we had to be aware of the realities of the political process, we should explore ways of perhaps reaching some accommodation with some of the opponents of the bill. So in 1983 conversations were begun in greater earnest with individuals, particularly Mr. Waxman on the House side, who had opposed the bill, while keeping the supporters, including yourself, apprised of what was going on. But it began at that time, and it has been going on over the past several months.

The CHAIRMAN. What do you see as the chief advantages of the bill for research-oriented companies?

Mr. ENGMAN. I missed the first part of that, I'm sorry.

The CHAIRMAN. What do you see as the prime advantages of this bill, especially for research-oriented companies?

Mr. ENGMAN. The principal advantage is that it does away with the odd result of our current public policy that research and patent incentives for discovering new medicines are approximately only half that of the research incentives for, let's say, coming up with a new floor wax or a new mouse trap. The principal advantage of this legislation is that it restores up to 5 years of the patent time that is lost in the FDA approval process, thereby creating, from the point of view of the American public and the American consumer, increased incentives for research for new medicines.

The CHAIRMAN. Could you discuss briefly your view concerning the resource allocation changes at FDA which may or perhaps even should occur as the result of the passage of this bill?

Mr. ENGMAN. Well, it is our understanding that the resources which are devoted to the approval of new drugs, as Dr. Novitch indicated this morning, would basically remain toward that end. As you know, the industry has continuing problems with the pace of approvals of new drug applications at FDA, recognizing that there are some very difficult problems which the FDA has to deal with, including compensation problems and the acquisition of solid scientific personnel. And generally speaking, the industry has been supportive of FDA's efforts to remedy those particular problems.

The CHAIRMAN. Speaking to our drug export proposal, why is it that it often takes longer for a drug to receive FDA approval than it does for approval in other developing countries?

Mr. ENGMAN. That is a question which perhaps Dr. Novitch can better answer than I.

The CHAIRMAN. We are giving you a great forum here to make some suggestions.

Mr. ENGMAN. It does seem difficult. Obviously, the standards for approval in the United States are more rigorous than exist in many other nations. But we believe, and we have proposed over the past 2 years, that they can be expedited, and the IND and NDA proposals which the Food and Drug Administration and the Secretary made during the past several months are designed to expedite that process.

But the fact does remain that other developed countries in the world with sound approval systems, Great Britain and Germany and others in Europe, are able to move more rapidly.

The CHAIRMAN. Do you know of any significant problems which have resulted from the export of antibiotic drugs or medical devices under the current particular less restrictive rules governing them?

Mr. ENGMAN. I am not aware of any significant problem that has resulted.

The CHAIRMAN. How strongly does your organization feel about the drug export legislation, and how widespread would you say is that feeling?

Mr. ENGMAN. I think with respect to that issue we have near unanimous, if not unanimous, support for the proposed amendment which we have under discussion this morning. There is widespread support.

The CHAIRMAN. All right.

Mr. Engman, can you list for me some of the PMA members with large research departments research and commitments which support this particular bill?

Mr. ENGMAN. Yes, Mr. Chairman.

The CHAIRMAN. I am talking about S. 2748.

Mr. ENGMAN. Well, that is what I understood, Mr. Chairman. Just mentioning some, of course, we start with G.D. Searle, represented by Mr. Robson here on my right, Abbott, American Cyanamid, Dow, DuPont, Hoechst, Eli Lilly, Pfizer, Smith Kline, Sterling, Syntex, Upjohn, Warner Lambert.

The CHAIRMAN. Let me turn to you, Mr. Robson. One criticism of patent term restoration is that there are already so many research alternatives and incentives, from tax deductions to the industry's traditional high return on equity, that restoration provisions will not result in increased research, but will only result in increased dividends. How do you respond to that?

Mr. ROBSON. It strikes me that where that assumption came from, I don't know. I think the fact is that what you are doing by this bill is offsetting the increasing load on the incentives to do research in this country. The research for pharmaceuticals is increasing in costs, in part because of the advance of science and in part because the Congress and the public insist that we apply high standards of safety and efficacy to our products.

It costs anywhere from $15 to $50 million to bring a new pharmaceutical product into the marketplace. It takes anywhere from 7 to 11 or 12 years to do so, and the risks are very high that you will never get there. And, as you well know, the batting average for discoveries that ultimately come into the marketplace is very, very low.

So what we are doing here, I think, is trying to maintain equilibrium rather than make a gigantic improvement in the incentives. I think that we are in a very high risk business; we are in one that affects the public. It strikes me that this is a sensible thing to do from both the standpoint of the public interest and America's position in technology in the world.

The **Chairman**. What do you feel, for instance, is the impact of the rise of foreign competition, and its affect on the necessity for increasing our research efforts in this country over past levels?

Mr. **Robson**. Well, I can only speak anecdotally, but at least as I look around the would, it seems that other countries—and you might single out Japan as one in particular—go out of their way to induce their industries to invest in research and development. They seem to be able to find ways to promote investment in R&D with the idea that that is going to strengthen their national industries in the world. And if you look at what has happened in the world, they have not been unsuccessful at it.

The **Chairman**. You seem not to give the same weight to the alleged problems with the bill, the patent problems which have been raised, for example, by some of the other companies. Is this a result of a differing interpretation of the actual language of the bill, or, frankly, is this just a different assessment of how this bill will really work in the real world?

Mr. **Robson**. I think it is more to the latter point. No piece of legislation is perfect. They generally represent compromises that are hammered out.

The **Chairman**. Henry Waxman told me this was perfect when it started out. And you know how I pay attention to Henry. [Laughter.]

Mr. **Robson**. With all due respect to Mr. Waxman, most legislation that has come this far through the steel mill of the legislative process usually has a few hammer marks on it.

The **Chairman**. Yes. I just came from the conference on bankruptcy. [Laughter.]

Mr. **Robson**. I think we have not assigned the same central weight that some of my colleagues on the PMA do to those issues.

I think that—if I am not presumptious—that some point along the way the legislative process, the debate has to cease, and actions and decisions be taken. I think, Mr. Chairman, that you need to decide whether changes in the legislation will improve it and weigh that against the likelihood of those changes diminishing the probability of passage. And I am sure you will do that.

The **Chairman**. I will ask you the same question I have asked the other witnesses. Do you know of any significant problems that have resulted from the export of antibiotic drugs or medical devices under the current less restrictive rules that govern them?

Mr. **Robson**. I know of none.

The **Chairman**. You don't know of any problems?

Mr. **Robson**. No, sir.

The **Chairman**. Alright.

Mr. Haddad, I share your concern about the high cost of drugs, and, I might add, Congressman Waxman's concern. And I want to pay particular tribute to him, because I believe that he has doggedly pursued this legislation, and I have a very high regard for him and for what we can do together if we just work to try to resolve some of these major problems in the field of medicine.

Do you have anything that you would care to add to Mr. Engman's recital of the development of S. 2748?

Mr. **Haddad**. Not really, except that it is a rare circumstance that we testify together. The only time that happened is when you and Waxman got us together on orphan drugs. Those are the only two times that I can recall.

The **Chairman**. I have kind of enjoyed the experience so far. [Laughter.]

Mr. **Haddad**. It has been a very difficult process. There are many points in this bill that rankle our members to the point of bolting. But in the end, as Searle has indicated, you know, there is a process and we became part of that process, and we support this legislation. But it has been difficult negotiation and final decisions were made not by Mr. Engman and myself, but by the Members of Congress who heard our arguments and then put them down. And we support it.

The **Chairman**. Well, I want you to know how much I respect both you and Mr. Engman, because I know this is a very, very difficult problem for both of you. Both of you would prefer certain changes in the bill, but as you have both said, this happens to be a compromise. We are trying to put it together for the benefit of everybody, if we can.

Mr. Haddad, the abbreviated new drug application portion of S. 2748 is often viewed as the generic industry's part. Will the ability to come to market more quickly with competing generic copies be limited to those companies who are the "traditional" generic manufacturers?

Mr. **Haddad**. No, it makes a brandnew ballgame. We are a price—our segment of the industry is very price competitive. Anybody can get into the ballgame if you have the right scientists and certain capital. No, I think this will increase generic competition in terms of the number of companies seeking approval of newly post-1962 drugs. I think it is a brand new ballgame. As a businessman, I say this is the time to come into the market, because you all start equal.

The **Chairman**. Mr. Haddad, do you or does your association have a position on the drug export reform proposal that we are also considering here this morning?

Mr. **Haddad**. We do all our expansion in the United States. We have not looked at the foreign markets. However, if you will permit, I do have a personal view.

As you know, I was a journalist in Latin America, and I watched the Communists make great hay over what they said was the dumping of unsafe drugs. And I was quite angry over that procedure. I had a closed mind on this subject.

When I first talked to your staff, I reflected my views based on that experience. I have now read the changes in the legislation, the precautions taken, and in reading that I am back to dead center. I now have an open mind on that subject. A number of my personal reservations, based on personal experience and prejudice, have been resolved. And I am now going to take a look at it with an open mind, and I am going to suggest to our board of directors that we take a look at it again, because I think the legislation, at least in my own terms, has answered some of the questions that have really troubled me.

The **Chairman**. We have tried to do that; it is especially important to me. And I think that the export bill deserves to pass as well.

Let me turn to Merrell Dow. Mr. Ingram, you talk about the need to build a new plant or substantially upgrade an existing one in order to meet your production needs. Is it your commitment that this investment would be made in the United States if the drug export bill became law?

Mr. **INGRAM**. Yes, it is, Mr. Chairman.

The **CHAIRMAN**. You feel confident of that?

Mr. **INGRAM**. Yes, sir.

The **CHAIRMAN**. So that means more jobs, more opportunities, and a better balance of trade situation for our country.

Mr. **INGRAM**. Certainly, Mr. Chairman.

The **CHAIRMAN**. Have you ever marketed abroad a drug which you knew could not be approved in this country with regard to safety standards?

Mr. **INGRAM**. No, we have not.

The **CHAIRMAN**. In your view, why do new drug approvals so often come earlier in other developed countries?

Mr. **INGRAM**. Well, I will repeat the qualifier that Mr. Engman issued earlier. I think Dr. Novitch could probably answer that better than I. But it is obvious that our review system does take longer, and at the same time I think we must recognize that there are foreign countries which have very adequate regulatory review systems in place. And for whatever the reason, it is certainly evident that there is a time lapse between when approvals occur, particularly in the major countries in Europe, versus when they occur here in the United States.

The **CHAIRMAN**. Let me submit the rest of my questions to the panel, because I know that the Senator from Indiana has been waiting for a long time. Senator Quayle is always patient with me. I apologize for taking all this time. Let me turn the remaining time—we have about 7½ minutes before you have to leave.

Senator **QUAYLE**. Thank you, Mr. Chairman.

I just have a couple of quick questions for Mr. Engman.

First of all, I want to thank you for having these hearings, and I think also, just listening to the testimony here, that your drug export amendment is certainly an idea whose time has arrived. I think that the statement that you put out excellently amplified the need to have this. And I am willing to work with you to see this go forward, because I think it is a good piece of legislation, and I am very interested in it.

The **CHAIRMAN**. Thank you.

I might mention for Mr. Haddad's benefit—because I do want you on board this—I won't tolerate the dumping of unsafe drugs overseas. I just don't think that is right. But I think it is ridiculous, absolutely ridiculous, for us not to be competitive when other countries have a reasonable system of determining safety of drugs. So I really believe this bill is very important as well.

Go ahead. I'm sorry.

Senator **QUAYLE**. I think it is a good bill.

Mr. Engman, Senator Hatch asked you about the negotiations on the legislation. I wanted to know, did anyone representing the Animal Health Institute or the animal drug industry directly participate in your negotiations with Congressman Waxman on the content of S. 2748?

Mr. **Engman**. They were not directly involved to my knowledge, Senator Quayle. There were other representatives from other industries who were involved from time to time. But I never had any direct conversations with them.

Senator **Quayle**. You did not have direct conversations with them.

It is also my understanding that the restrictions in S. 2748, as compared to H.R. 5529 which concerns the animal drugs, are more restrictive in this legislation. Is that not true?

Mr. **Engman**. Well, I would have to defer to the animal health people themselves to make that assessment. But I would understand why they might come to that conclusion.

Senator **Quayle**. Do you disagree with them?

Mr. **Engman**. No, I don't. As I said, I understand why they would make that argument.

Senator **Quayle**. I guess as we look for these comprehensive pieces of legislation, that I, just at first blush—and I have not gotten involved in it as much as I intend to—that without their direct participation in these negotiations, including in a more restrictive situation than what they had put into H.R. 5529, seems a bit unfair. And I think it is one of the things that we ought to explore. I just wanted to set the record straight.

Mr. **Engman**. Let me make one point very clear, Senator. And that is that at no time did I purport to speak on behalf of any group other than pharmaceutical products, with respect to drugs for humans. And that was clear. It was always the understanding that there might be interest in agricultural chemicals or other chemicals or pesticides which should be treated differently, and those issues should be dealt with by representatives of those industries.

So any discussions which I had, whether with Congressman Waxman or Senator Hatch or anyone else, only dealt with prescription drugs. And I don't mean to say that this is a good bill for them as opposed to some other approach.

Senator **Quayle**. But they are included in this bill, and they did not have any direct participation in the negotiations.

Mr. **Haddad**. Senator, I was involved in those negotiations, and I would like to see the specifics, but I am not quite sure that is on target. But I would really like to see it. They were in the bill, and then they were out. And they have their own bill now. But I would like to take a look at that as well.

You know, you are pointing at something directly, and I am trying to ferret out what that is.

Senator **Quayle**. Well, the thing I am pointing at directly is that there was no one in the negotiations of this bill that represented the Animal Health Institute or the animal drug industry, yet they are included in this. And I think that as we try to put forward a comprehensive piece of legislation, that strikes me as being a bit unfair.

I am not saying that the proposal that you have come up with is inappropriate—but I do think as you go through this proposal it strikes me as being exceedingly unbalanced.

The second question I have to Mr. Engman is as drafted, Does the bill allow 18 months for adjudication of a patent challenge?

Mr. **Engman**. Under the bill, Senator, a generic product could not be marketed prior to the expiration of the patent on the initial product unless there is a challenge to the patent and there is litigation, and either the court holds that the patent is invalid or, second, has not ruled in 18 months. There are provisions in the legislation, however, to encourage both parties to expedite these court proceedings, and to give the judge the authority to either reduce or expand that 18 month period as a way of keeping the pressure on the parties to proceed expeditiously.

Senator **Quayle**. What about the backlog in some of the States, where the allegations are that it is up to 2 or 2½ years before they can even hear it? What would happen in those cases where a challenge would be filed in the court and there isn't any determination within 18 months?

Mr. **Engman**. If there were no expansion of that 18-month period, then presumably the product would be marketed. But if the ultimate result of the court hearing were that there was a patent infringement by marketing the generic product, then the company would be liable for damages to the original company.

Senator **Quayle**. How did we arrive at the 18-month figure?

Mr. **Engman**. That was a process of part of the negotiations back and forth and the discussions over a period of time.

Senator **Quayle**. But there is a potential problem there because once the 18 months expires on those cases in the courts that have quite a logjam, those cases will not get the proper hearing and adjudication. Is that not correct?

Mr. **Engman**. Well, we had originally proposed, Senator, that there be an absolute ban on any marketing of a generic product until after final resolution of the litigation. If I were sitting where you were and had the ability to enact legislation all by myself—which I realize you don't either—that is how I would have written it, and that was our original position.

But in the give and take, considering the other provisions that were felt to be of greater importance from our vantage point, this was one of the points that was ultimately compromised.

Senator **Quayle**. So this is a significant compromise which you feel you made from your original position. And your original position, if in fact you had your way, would be no marketing until the final adjudication. Is that correct?

Mr. **Engman**. That was our initial position. That is correct.

Senator **Quayle**. Thank you, Mr. Engman.

Thank you, Mr. Chairman.

The **Chairman**. Thank you, Senator Quayle.

We have about 7 minutes to get to the vote over on the floor, and we really want to make this, because it amounts to 16 votes in 1. So I don't want to miss it.

In Senator Hawkins absence, what I am going to do is I am going to ask Mr. Madsen, my counsel, to ask three more questions. One for you, Mr. Ingram, and then a couple for you, Mr. Swanson, so we can keep this going.

Senator Hawkins does want to question this panel, so after these questons we will wait until she gets back or at least until I get back. We asked her to go over early so she could come right back, and she will be here any minute.

So if you folks will just wait, and, Frank, when you're finished you can recess until she gets here if she isn't here.

So, with that, I am going to turn it over to my counsel, and then I will get back as soon as I can.

Mr. ENGMAN. I do want to compliment you again, Mr. Chairman, for your key role in helping to forge this compromise. Thank you.

The CHAIRMAN. Thank you. Here's Senator Hawkins, now.

Senator HAWKINS. Senator Hatch has asked that I ask these questions of Mr. Ingram of Merrell Dow.

You refer to the 1981 new product approved in a number of developed countries.

Mr. INGRAM. Yes, ma'am.

Senator HAWKINS. Would you tell us what the product is and why you think it hasn't been approved yet in the United States?

Mr. INGRAM. Senator Hawkins, the product described as being marketed globally in 1981 is an antihistamine product, terfenadine, by chemical name. It is very successful in each of the foreign markets where it has been marketed. It was submitted within the last 12 months for approval here at the FDA, and——

Senator HAWKINS. How many months?

Mr. INGRAM. Within the last year, within the last 12 months. And we can, while never certain, reasonably project that it could be approved sometime in 1985.

Senator HAWKINS. Mr. Swanson, Senator Hatch says he is very sympathetic to your plight and that of other small, emerging firms which contribute so much to innovation in our economy.

Is there any particular urgency to your company's or your industry's need for relief from the current pharmaceutical export policy?

Mr. SWANSON. Senator, it is very urgent indeed. There are products currently being tested overseas that, if they are approved there before approval in the United States, we would not be able to supply from our current manufacturing facility in California.

Senator HAWKINS. How would you assess the U.S. position in biotechnology development relative to other leading research countries?

Mr. SWANSON. I think we are currently very much in the lead, due largely to the public investment in basic research through the NIH and other agencies and the sort of entrepreneurial spirit that we have in terms of starting up new companies in this country.

The foreign countries are targeting this industry specifically, and they are reducing that lead and catching up quickly.

Senator HAWKINS. And do you feel export policy would affect this position?

Mr. SWANSON. Absolutely.

Senator HAWKINS. Mr. Ingram, under the Drug Export Act amendments, drugs produced in the United States for export into a Third World nation would have to meet licensing and labeling requirements of a developed nation. By requiring labeling and contraindications of a drug to meet the requirements of a developed nation and translating those labeling and contraindications into the language of that Third World nation, aren't we actually improving the situation in those Third World nations?

Mr. INGRAM. Yes, we certainly are, Senator.

Senator HAWKINS. Aren't many drugs currently sold in Third World nations labeled in the language of the country that produced them?

Mr. INGRAM. Yes, it is my understanding that that is true.

Senator HAWKINS. And in your testimony you talked about the jobs being lost in the United States. Do you have any estimate of how many jobs you feel we are talking about under the current restrictions that we lose?

Mr. INGRAM. I can't give you an industry estimate. Perhaps Mr. Engman can. I can tell you that if these restrictions were lifted that Merrell Dow would be looking at very quickly well over 100 new jobs.

Senator HAWKINS. Once FDA approval is given to a drug, Mr. Ingram, do you close your foreign plant and build a new plant in the United States?

Mr. INGRAM. No, we don't, Senator Hawkins. We would continue to operate our foreign plant. However, as I stated in my earlier testimony, we have reached capacity at that foreign plant, and in order to produce product for increased volume requirements, it is a decision as to whether we expand there or utilize the facilities we have here in the United States.

Senator HAWKINS. Mr. Swanson, does the current prohibition on exporting drugs which have not received FDA approval result in U.S. corporations having to share technology with foreign nations?

Mr. SWANSON. Yes, it does, Senator. Often the agreements structured by some of the small biotechnology companies call for supply of bulk product from the United States. But, justifiably so, if their foreign partners cannot get that bulk product, they have to transfer the technology so that it can be manufactured overseas.

Senator HAWKINS. Mr. Haddad, how many drug products could be produced as generic drugs if this new drug application bill is enacted?

Mr. HADDAD. It would double the current market. The FDA estimates 160. Our estimates have been 125 to 150. There are approximately 125 generic drugs available now.

Senator, can I take 12 seconds to clarify two items that came up?

Senator HAWKINS. Yes.

Mr. HADDAD. One has to do with the time of challenging a patent. A question arose with Senator Quayle while you were away.

The term 18 months was used. Actually, that 18 months begins when we file our biostudies, which are approximately 6 months or 8 months or 9 months after we begin working on the product and after we notify the pioneer company. It is a sophisticated point, but the year is—the time is more than 18 months, although the principles discussed under that issue are the same.

Second, there were some questions regarding the negotiations that took place. I would like to add for the record that negotiations were widely discussed in the trade press. It was just like a congressional caucus, where the next day everything is in the press. And everything we did was reported in the trade press, and anybody who wanted to participate had access to that process. It brought in all of the interested parties. So they were not, in any sense, negotiations that were held privately by participants, or privately between Members of Congress and participants.

Thank you for the time.

Senator Hawkins. I don't know how to respond to the elderly constituents that we have in Florida who write very often and say they can't afford to purchase their heart medicine.

Mr. Haddad. That is horrendous.

Senator Hawkins. They can't stretch their meager income to pay their increased electricity bills, and lifesaving telephone service, et cetera. And these are the type of individuals who would benefit directly from the new drug application legislation which would facilitate the development of generic drugs whose active ingredients are identical to the existing drugs they are taking.

Don't you feel that this legislation would help make the lifesaving drugs affordable to the elderly?

Mr. Haddad. Yes. There are two things. One is—just a moment. I was on Larry King's show, as you have been. I got 8,000 handwritten letters, most from elderly Americans, talking about the problem that you raised. And frequently the drug they took was available generically or would be available generically under this legislation.

But, as Mr. Engman has pointed out, two things happen. Not only will people and governments buy drugs less expensively, but it will provide companies with additional resources to invest in finding cures for diseases which are now debilitating. So it has that rare ability, in this compromise, to do both. So they benefit from both ends of this compromise.

Senator Hawkins. Thank you.

Mr. Engman, while I am sure you would not be broken hearted if some of the amendments proposed by the dissident pharmaceutical companies were adopted by this committee, would you oppose amendments which went to the heart of the compromise and threatened its enactment during this session of Congress?

Mr. Engman. I lost the last part of that question, Senator, I'm sorry. Would I oppose——

Senator Hawkins. You fell off when I said "broken hearted," I know. [Laughter.]

Mr. Engman. I can't ever be broken hearted for too long.

Senator Hawkins. While I am sure you would not be broken hearted if some of the amendments proposed by the dissident pharmaceutical companies were adopted by this committee, would you and your organization oppose amendments which went to the heart of the compromise and threatened its enactment during this session of Congress?

Mr. Engman. First of all, many of the arguments which have been made by the other companies were positions that we initially had argued for as this process of the discussions and the compromise began. But a majority of our board of directors did agree that we would support this legislation with these compromises as it now exists, and that we would not support further changes which were not agreed to by the sponsors, which would have the effect of slowing the legislation down, since that might mean that it could not achieve passage during this Congress.

Senator Hawkins. Do you have the votes?

Mr. ENGMAN. I don't have any vote. You have one, so you are one up on me. [General laughter.]

Senator HAWKINS. Do you consider the provision permitting the generic manufacturers to begin testing prior to the expiration of the patent a critical amendment which goes to the heart of this compromise?

Mr. ENGMAN. That was an issue that was initially put to us in January of this year, and at that time the board made a decision that that was one of the tradeoffs that we were prepared to give up to achieve other purposes of this legislation.

Senator HAWKINS. Thank you very much for your participation on this panel.

I will now call the third panel. Mr. Verne Willaman, a member of Johnson & Johnson's executive committee, accompanied by Mr. Stafford and Mr. Lerner.

The third panel consists of three witnesses for whom we have the highest regard. Mr. Verne Willaman, a member of the executive committee and Johnson & Johnson, heads all of Johnson & Johnson's pharmaceutical divisions. He will be testifying on behalf of 10 pharmaceutical companies which have identified provisions of the bill which they feel pose problems and require correction.

He will be accompanied by Mr. John Stafford, president of American Home Products, and Mr. Irwin Lerner, president and CEO of Hoffman-LaRoche.

Mr. Willaman, welcome, and please begin.

## STATEMENT OF VERNE WILLAMAN, MEMBER, EXECUTIVE COMMITTEE, JOHNSON & JOHNSON, ACCOMPANIED BY JOHN R. STAFFORD, PRESIDENT, AMERICAN HOME PRODUCTS, AND IRWIN LERNER, PRESIDENT/CHIEF EXECUTIVE OFFICER, HOFFMAN-LAROCHE, INC.

Mr. WILLAMAN. Thank you, Senator Hawkins.

Thank you for the opportunity to appear before this committee to discuss S. 2748. You have already introduced the other people at the table. Let me also just begin by naming the other companies in our group: Bristol-Myers, Carter-Wallace, Merck, Norwich Eaton Pharmaceuticals—a Procter & Gamble company—Schering-Plough Corp., Squibb Corp., and Stuart Pharmaceuticals, a division of ICI Americas.

These companies have much in common. We are all committed to pharmaceutical research and development. We represent about half of the private pharmaceutical research and development investment in this country, an investment which over the years has propelled our country into the world technological leadership position.

In today's costly health care environment, prescription drugs, to quote a recent study, are the "least expensive form of medical therapy and greatly reduce health care costs" by cutting back the need for surgery and hospitalization. The medicines we discover and develop in our laboratories are absolutely essential to continued medical progress in this century and beyond. In human terms, the saving of lives and suffering is immeasurable.

Our companies have been responsible for some of the most significant pharmaceutical breakthroughs of the last several decades. We recognize that each time we begin to develop a new drug we are undertaking a multimillion-dollar investment. A large amount of our research never culminates in a marketed product because there are many uncertainties associated with medical research. On average, the cost of developing a new medicine in this country is now in the $70 to $85 million range, taking an average of 7 to 10 years and often longer to complete all the rigorous scientific protocols and secure FDA approval. Incentives provided by the patent system are the cornerstone of pharmaceutical research and development.

For many years, the patent system has not worked for our industry as it was intended. By the time new drugs are cleared by FDA, they have far less than 17 years of patent life. For example, FDA reported that of 205 drug products approved between 1962 and 1978, 51, or a quarter, had little or no patent life at the time of approval. We have long believed that this is a situation that merits remedy by the Congress, and indeed, efforts in this direction have been made in past years.

At the same time, Senator Hatch recently identified the need to resolve the question of how FDA approves generic versions of post-1962 drugs. A workable system must be established for approving these generics and for assuring their safety, effectiveness, and quality. But the legislation must not have the unintended effect of discouraging original research.

We fully support the objectives of the legislation that has been introduced. And furthermore, we would like to commend the committee for holding hearings on this important piece of legislation. The leadership on this issue, and advocacy of drug export legislation is an example of the kind of leadership necessary in the health care field. Expanding drug exports will encourage American technology and job opportunities. Unfortunately, the ANDA/patent term proposal in its current form will have the opposite effect.

Senator Hawkins, while we support the objectives of S. 2748, we are convinced that amendments are necessary. The amendments we are proposing are designed to achieve a fair balance between streamlining the generic drug approval process, while, at the same time, assuring patent protection for pioneer medicines. Efforts to stimulate research leading to important new therapies merit at least as much consideration as accelerating the approval process for generic copies.

This bill raises many difficult patent issues. Yesterday, at a hearing before a House Judiciary Subcommittee, Patent Commissioner Gerald Mossinghoff identified some of these issues. He said they pose such a major obstacle that despite his fervent support for patent term restoration for pharmaceuticals, he and the Patent Office oppose enactment of this legislation in its present form. Also at yesterday's hearing, Prof. Norman Dorsen, a recognized expert in constitutional law, noted that at least one central provision of this legislation raises serious constitutional questions. In light of this testimony, it is our view that hearings be held before the Senate Judiciary Committee.

Additionally, Commissioner Novitch testified this morning that FDA believes that additional changes need to be made to this bill.

Senator Hawkins, we do have a common constituent—the American consumer. Consumers should not only have access to safe and effective generic drugs. They also should have the lifesaving benefits of the innovative therapies discovered in our laboratories. These objectives can be achieved by addressing the concerns of the Patent Office and the FDA, which are the same concerns that we have identified.

We are concerned that this legislation, as drafted, would have the effect of reorienting FDA priorities toward approval of generic drugs and answering freedom of information inquiries rather than focusing, as it should, we believe, on important new therapies for American patients.

Our written testimony describes the specific amendments we are seeking. I would like to summarize them for you. In keeping with the committee's jurisdiction, I will focus on health and regulatory problems raised by the legislation.

Our first public health concern is that the bill, in its current form, could restrict FDA's ability to assure that all drugs are shown, before marketing, to be safe and effective. For most generic copies, FDA would be precluded from requesting information beyond the limited information specifically set forth in the bill. For these drugs, FDA has no authority to reject an application on the grounds that the copied drug has not been shown to be safe or effective.

We strongly feel that FDA should have clear authority to assure the safety and effectiveness of every drug on the market. We, therefore, favor an amendment that would make this FDA authority explicit.

Another major concern relates to the public disclosure of safety and effectiveness data contained in the new drug applications for pioneer drugs. Such data represents a huge research investment by the originating firm. This legislation, if enacted in its present form, would permit public disclosure of all safety and effectiveness data, and information about a drug as soon as it becomes eligible for an ANDA.

These proprietary data retain commercial value for the pioneering drug firm in the worldwide marketplace. They are of significant value to competitors abroad, and their release would erode the U.S. technological leadership. The data are particularly valuable in countries that do not provide adequate patent protection. We believe that this provision, unless amended, would have serious adverse effects on this Nation's pharmaceutical leadership.

Earlier this year, Senator Hatch made efforts to amend the Freedom of Information Act, and drove home the usefulness of U.S.-produced technical data. It is these same technical data that would be made available to foreign competitors under S. 2748. And, as I have already noted, the disclosure provision would add to FDA's already enormous burden under the Freedom of Information Act. It is difficult to see how the public benefits by having FDA resources diverted to giving foreign competitors valuable research information at the expense of approving drug applications.

Our next concern relates to the transition provisions in S. 2748. As drafted, it permits marketing exclusivity for 10 years only for new active ingredients first approved between January 1, 1982, and the date the bill is enacted. We believe this transition provision is too limited in scope. It does not apply to new uses for the drug, new dosage forms or innovative formulations, all of which require full new drug applications. Those innovations frequently are as important and contribute as much to public health as the active ingredients covered under the provision. Yet companies that invested in these important areas would be penalized by their exclusion from the transition provisions.

A second part of this concern relates to the 4-year period of marketing exclusivity for unpatentable active ingredients approved after the bill becomes effective. As FDA has made clear in previous testimony, this period is needed to evaluate patient experience with a new therapy in the first few years after its introduction. This experience often provides new insights into the drug's safety profile and appropriate use. As with the other transition period, this provision should be broadened to include all new drug approvals for products that are not patentable.

Senator Hawkins, we understand that concern also has been expressed about two other health-related issues. One is the many new burdens that this bill imposes on FDA which, among other things, would also involve the agency in patent matters for the first time. And Commissioner Novitch talked about that this morning. The second concern relates to the reversal of FDA's longstanding policy concerning combination drugs. We share these concerns with Dr. Novitch and urge that your committee consider them.

To conclude, Senator Hawkins, our 10 companies support the legislative objectives of S. 2748. But the problems we have raised here today and in our more detailed written comments must be resolved to afford maximum public health protection, as well as to continue research incentives for the pharmaceutical industry.

U.S. pharmaceutical companies always have been preeminent in developing and disseminating lifesaving and life-extending pharmaceutical products. But recent statistics indicate this leadership is declining. The U.S. share of world pharmaceutical research and development expenditures has fallen from more than 30 percent before 1960, to less than 15 percent today. The number of new drugs entering clinical trials and owned by U.S. firms has steadily dropped in the past 20 years.

Further, the percentage of world pharmaceutical production occurring in the United States has fallen from 50 percent in 1962 to 30 percent in 1968, to 27 percent in 1978. From 1955 to 1962, an average of 46 new drugs were introduced each year in the United States. Today, the average is 17.

I recite these figures to demonstrate that the pace of America's drug innovation is slowing. Our leadership is in jeopardy. Our amendments could help reverse this trend.

Congress not only must provide a better generic approval system, it also must provide meaningful incentives for pioneering pharmaceutical research in this country. We urge you to incorporate our changes into this complex legislation so that a bill can emerge that truly accomplishes all of its objectives, and that will benefit our mutual constituent, the American consumer.

We stand ready to work with you, the committee, your staff and others in the Senate to enact such legislation.

Thank you, Senator Hawkins. We would be pleased to answer questions.

[The prepared statement of Mr. Willaman follows:]

# STATEMENT

ON BEHALF OF

American Home Products Corporation
Bristol-Myers Company
Carter-Wallace, Inc.
Hoffmann-La Roche Inc.
Johnson & Johnson
Merck & Co., Inc.
Norwich Eaton Pharmaceuticals, Inc.
(A Procter and Gamble Company)
Schering-Plough Corporation
Squibb Corporation
Stuart Pharmaceuticals
(Div. of ICI Americas Inc.)

BEFORE THE
COMMITTEE ON LABOR AND HUMAN RESOURCES
UNITED STATES SENATE

HEARING ON S. 2748

June 28, 1984

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Appendix A: Data concerning the cost-effectiveness of pharmaceutical therapies

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Appendix D: Testimony of Dr. Mark Novitch, Deputy Commissioner, Food and Drug Administration, before the Subcommittee on Health and the Environment of the Committee on Energy and Commerce, House of Representatives, on H.R. 3605 (July 25, 1983)

## INTRODUCTORY REMARKS

Mr. Chairman and Members of the Committee:

My name is Verne Willaman and I am a member of the Board of Directors and Executive Committee of Johnson & Johnson. With me are John R. Stafford, President, American Home Products Corporation and Irwin Lerner, President and Chief Executive Officer of Hoffmann-La Roche Inc. We are here today to speak on behalf of 10 of the nation's leading research-based pharmaceutical companies: American Home Products Corporation; Bristol-Myers Company; Carter-Wallace, Inc.; Hoffmann-La Roche Inc.; Johnson & Johnson; Merck & Co., Inc.; Norwich Eaton Pharmaceuticals, Inc., a Procter and Gamble Company; Schering-Plough Corporation; Squibb Corporation; and Stuart Pharmaceuticals, a Division of ICI Americas Inc.

Together our companies account for approximately 50% of the pharmaceutical research dollars spent in the United States by private industry. Let there be no mistake about the public benefit of this pioneering work. Our companies have been responsible for some of the most significant pharmaceutical breakthroughs of the last several decades. Not only have we developed new drug therapies for many previously untreatable conditions, but drug innovations often provide the least expensive, most cost-effective form of medical therapy. Several recent studies establish that pharmaceuticals can lead the way in the effort to curtail health-care costs by cutting back the need for more expensive surgery and hospitalization.

(Appendix A.) Moreover, the pharmaceutical industry is undeniably important to our national economy. Our group of companies alone employs approximately three-quarters of a million workers in the United States. In 1983, the U.S. exported over $2.5 billion worth of pharmaceutical products that accounted for a net favorable trade surplus in excess of $1.2 billion. These health and economic benefits make it imperative for Congress to encourage innovative future research by restoring the effectiveness of America's patent system while maintaining our commitment to providing the world's safest and most dependable drug products.

Therefore, at the outset Mr. Chairman, we would like to commend you for introducing this important piece of legislation. We support its objectives. Specifically, our group favors legislation which would (1) restore some of the patent life lost to the regulatory review process for innovative drug products, and (2) accelerate the availability of safe and effective generic drug products. Although we support the goals and purposes of S. 2748, we believe that certain important changes are essential in order to produce a bill which achieves its objectives fairly and equitably. This complex legislation must receive careful and thorough consideration.

We applaud your efforts, and those of the entire Committee to tackle these problems and we appreciate the opportunity to appear before the Committee today.

Some may have represented to you that our group, by seeking careful consideration of this legislation and its complex issues, is really trying to defeat the bill. I assure you that this is not the case. We believe that with appropriate amendments, this legislation will truly meet its expressed objectives. This complex 45-page bill was entered as an amendment to a one and one-half page bill and the amended bill was reported out of the House Energy and Commerce Committee on the very same day. Under the circumstances, the difficult issues embodied in the bill deserve full consideration by the Senate. We are grateful for your interest in giving this legislation the thorough consideration it deserves. In keeping with the Commission's jurisdiciton, I intend to focus on the serious health and regulatory issues raised by S. 2748.

Accordingly, I would like to offer our coalition's summary of the most critical changes in S. 2748 that we believe are in the interest of public health, and are necessary to restore the proper balance between the need for research, and an expanded and expedited ANDA system.

## I. ANALYSIS OF S. 2748

S. 2748 raises significant public health concerns which need to be addressed before final consideration of this important legislation. Since the fundamental goal of the Federal Food, Drug, and Cosmetic Act is protection of the public, any legislation amending that Act must fully consider its impact on the public health. Our companies have expressed views on several of the serious public health issues raised by the legislation, some of which we understand are shared by FDA.

### A. The Bill Should Provide FDA With Clear Authority to Ensure That All Drugs Are Safe and Effective

The FDA is charged by statute with protecting public health. In order to properly protect consumers, the FDA should have adequate and consistent authority for all of the products it reviews. There should not be one category of drugs subject to pre-market approval for which FDA is deprived of the authority to obtain all of the information it needs to properly assess safety. Yet, this is precisely the type of system that S. 2748 envisions.

While the drafters of this legislation may not have intended this result, S. 2748 -- unlike current ANDA regulations for drugs approved before 1962 -- appears to curtail FDA's existing authority to request safety and efficacy information from an ANDA applicant beyond the limited information specifically set forth in the bill. (*See* *Barr Laboratories, Inc. v. Harris*, 482 F. Supp. 1183 (D.D.C. 1980) (FDA not required to certify new versions of previously-approved antibiotic where agency had decided drug was unsafe and had initiated statutory procedures to remove it from the market).) For many drugs, the bill does not permit the FDA to request data -- including safety and effectiveness data -- other than that which relates to the bioequivalence of the generic and the pioneer drugs. Nor does the bill authorize rejection of an ANDA for most drugs on grounds of lack of safety or effectiveness. Indeed, if this bill becomes law in its present form, we believe FDA would be left without the power to deal with the situation described in the Barr Laboratories case. Because it cannot evaluate the safety of certain ANDA drugs, it might be taking action to remove a particular pioneer from the market because of safety concerns, yet at the same time, be forced to approve a generic copy of the questionable drug. Such a policy would make no sense.

These restrictions on FDA authority could lead to serious public health consequences. The bill's failure to be explicit about the FDA's authority to require safety and effectiveness data and to disapprove an ANDA if the applicant has failed to demonstrate the safety and effectiveness of its drug will: (1) raise questions about the scope of FDA's authority; (2) probably result in litigation; and (3) perhaps create a separate class of products subject to pre-market approval requirements -- post-1962 ANDAs -- for which the FDA will be unable to obtain adequate safety and effectiveness data. Any bill which allows drug approval on the basis of incomplete or inadequate safety and efficacy data is inconsistent with the FDA's statutory mandate to protect public health. This legislation should be amended to preserve explicitly the FDA's discretionary authority (1) to require safety and effectiveness information from an ANDA applicant in the limited number of cases where such information is needed to protect the public health; and (2) in such instances, to disapprove any ANDA if the applicant is unable to demonstrate that its drug is safe and effective. This authority should not be a burdensome restriction on generics, but should be available to FDA for use in appropraite cases.

It has been the long-standing policy of the FDA to require that persons seeking to market drugs combining two or more active ingredients demonstrate that the combination itself, as opposed to the active ingredients individually, be shown to be safe and effective. S. 2748 would overrule this policy and permit the approval of Abbreviated New Drug Applications for new combinations of drugs which are individually eligible for ANDAs, even though the new combinations have never been on the market, and have never been established as safe and effective. Clearly, such expedited approval of previously unapproved combinations is plainly inconsistent with the medical and scientific rationale that supports FDA's current ANDA procedure. We agree with our understanding of the FDA's position that Congress should not provide for the approval of new combinations of drugs without requiring the applicant to demonstrate that the new combination is safe and effective.

## B. The Bill Should Not Require The Disclosure to Foreign Competitors of Valuable Proprietary Data

For over 45 years the FDA quite properly has not publicly disclosed, or allowed the release for any purpose not explicitly authorized by an NDA holder, any safety or effectiveness data contained in a pioneer NDA, while these data retain any commercial value. (21 C.F.R. 20.61, 314.11, 314.14. See 37 Fed. Reg. 9128, 9130-31 (May 5, 1972); 39 Fed. Reg. 44602, 44612-14, 44633-38 (Dec. 24, 1974); 40 Fed. Reg. 26142, 26148, 26168-71 (June 20, 1975); 43 Fed. Reg. 12869, 12870 (Mar. 28, 1978).) This interpretation of the Food, Drug, and Cosmetic Act has consistently been upheld in court. (E.g., Johnson v. DHEW, 462 F. Supp. 336 (D.D.C. 1978); Webb v. DHHS, Food Drug Cosm. L. Rep. (CCH) ¶ 38,138 (D.D.C. 1981). See also Pharmaceutical Mfrs. Ass'n v. Weinberger, 401 F. Supp. 444 (D.D.C. 1975); Syntex Corp. v. Califano, Food Drug Cosm. L. Rep. (CCH) ¶ 38,221 (D.D.C. 1979). Cf. Public Citizen Health Research Group v. FDA, 704 F.2d 1280 (D.C. Cir. 1983).)

Section 104 of S. 2748 would provide for a dramatic reversal of this long-standing policy, although some proponents of the bill maintain it would merely codify current FDA disclosure policy regarding drugs subject to ANDAs. However, this FDA policy was adopted before any serious consideration had been given to ANDAs for post-1962 drugs. Since its adoption, this policy has applied only to data generated before 1962. It does not follow that a policy which may be appropriate for data which are at least 22 years old is sound for data developed relatively recently and which are, therefore, of far greater commercial value.

The bill would permit the public disclosure of all of the extensive and costly research data generated by research-based pharmaceutical companies, at least as soon as FDA approval of a generic version of the new drug could become effective, even though the data may be of significant value to foreign competitors or may retain proprietary value in the United States. Also, it is not clear in Section 104 that the term "information" is limited to safety and effectiveness information as distinguished from other confidential data such as manufacturing methods and processes.

The data that would be released can retain commercial value, even though FDA would no longer require another applicant to submit the data to obtain approval for sale in the United States. These data would be commercially valuable because they could be used to obtain approval to market the drugs in foreign countries.

Mr. Chairman, you recently drove home the importance of protecting U.S.-produced technical data in your efforts earlier this year to tighten the Freedom of Information Act. You said:

> Foreign governments and foreign competitors of U.S. companies are able to obtain very valuable unclassified technical information simply by submitting a FOIA request to the Federal agencies that have paid to have the data developed. In fact,

> cottage industries have sprung up to systematically obtain and catalog such technical data, which they then market throughout the world.

The data disclosable under section 104 are particularly valuable in those countries which do not have effective patent protection. Thus, by providing for the release of these data, the bill hands foreign competitors of U.S. drug firms information which costs many millions of dollars to obtain and which can be used to obtain approval to market drugs in competition with the U. S. owner and generator of the data.

Thus, under Section 104, trade secret data that now cost, on average, $70-85 million to generate per new drug would be freely released to anyone requesting them. Unlike FDA, most foreign drug approval agencies give preference in their approval decisions to firms of their own nationality. American firms can expect to lose market shares in these nations and, in some instances, watch a foreign firm get marketing approval instead of themselves.

Section 104, as presently drafted, may jeopardize U.S. pharmaceutical exports and numerous American jobs. The exports at stake are to nations that (a) require data in the application for market approval that, but for Section 104, would not be publicly available, and yet (b) do not effectively recognize product patents. (Appendix C.)

Mr. Chairman, we support your efforts to retain domestically the fruits of American technology. However, we are concerned that under Section 104, our Government would, in effect, give foreign firms, for merely the cost of photocopying, private U.S. commercial information needed by the foreign firms to go on the market in their home countries. This is inconsistent with our Government's international efforts against the imposition of compulsory licensing requirements on U.S. patent holders.

This provision of S. 2748 may have significant resource implications for FDA. Under the Freedom of Information Act (FOIA), FDA is obligated to respond to requests for documents in its files, including the voluminous safety and effectiveness data, ordinarily within ten days and in special cases, within twenty days. Since the enactment of FOIA, FDA has consistently received more requests for documents than virtually any other Federal agency. In 1983, FDA received over 39,000 FOIA requests. One hundred twenty-five "full-time equivalents," many of whom are highly trained scientists and doctors, were required to process these requests. Under S. 2748, over twenty years of safety and effectiveness data and information for off-patent drugs will be available for disclosure immediately upon enactment. If FDA were to receive requests for even a modest part of those data, which we believe will happen, the workload and resource burdens would be staggering. It is difficult to see how the public benefits by the FDA being forced to divert scarce resources to processing FOIA requests and ANDAs at the expense of new drug applications.

We strongly urge that section 104 be amended to require FDA to make available a detailed summary of safety and effectiveness data, but not the complete raw data. Also Section 104 should be clarified so that the term "information" relates only to information on safety and effectiveness. We believe that such an amendment will in no way negatively impact the ANDA provisions.

### C. The Transition Provisions of the Bill Are Inadequate

S. 2748 would permit marketing exclusivity for ten years for only the limited category of drugs first approved between January 1, 1982 and the date of enactment of the bill, which drugs do not contain active ingredients approved in a prior application. (Proposed 21 U.S.C. 355(c)(3)(D)(i).) These transition provisions do not apply to new indications, new dosage forms, new release mechanisms, new delivery systems and innovative formulations. These innovations are as important and as worthy of protection as the active ingredients which these provisions were designed to cover. Yet companies that invested in research and development in these important areas are penalized by their exclusion from the transition provisions.

We believe that the bill should not be drafted to provide for special treatment for a small group of products. Every recently marketed new drug which has been through the full NDA process incurred substantial research and development costs and should be provided with the same reasonable period of exclusivity. For example, sustained release drugs require a full NDA and represent an important therapeutic alternative for the elderly.

The bill would also provide four-year marketing exclusivity for non-patentable active ingredients approved after the date of enactment. (Proposed 21 U.S.C. 355(c)(3)(D)(ii).) In the years immediately following FDA approval of a new drug, valuable patient experience data are accumulated and evaluated by the pioneering drug manufacturer. These data provide new insights into the safety and effectiveness of the drug. FDA has observed that the pioneering drug manufacturer is in a unique position to gather and evaluate these data. (See Testimony of Dr. Novitch, Appendix D.) The rationale for this period of marketing exclusivity applies not only to the limited category of drugs covered under the bill, but equally to new salts or esters, new dosage forms, new release mechanisms, new dosages, and new indications.

We therefore urge this Committee to make the periods of exclusivity provided by the transition provisions applicable to new salts or esters, new dosage forms, new release mechanisms, new dosages, and, importantly, new indications for which FDA has required a submission of safety and efficacy data.

## D. New Administrative Burdens On The FDA Deserve Careful Evaluation

We note that the bill imposes a number of new administrative burdens on the FDA. While many of these bear upon FDA's traditional functions, many others involve FDA for the first time in the administration of the patent system. They deserve full and careful evaluation. We understand that FDA representatives are making their views known independently on some of these features of the bill, but we do wish to address briefly two of the important aspects of these new responsibilities. (Appendix D.)

The bill has no effective phase-in period for ANDA eligibility. In the first few years after enactment, the agency will be flooded with ANDAs and would be required to redeploy its medical and scientific experts. All off-patent drug products before 1982 and some "post-1982" drugs would immediately be eligible for ANDAs. It is estimated that 300 drugs would be eligible for ANDAs. The number of ANDAs would surely be in the thousands.

The agency would require a substantial number of additional medical reviewers to process these ANDAs within the time periods mandated by the bill. Given the FDA's limited resources, and the absence of any likelihood of any increased resources, the only way the agency could implement this mandate would be to divert personnel from the other activities of the Center for Drugs and Biologics. In particular, personnel reviewing the frequently complex matters relating to full New Drug Applications covering new compounds which are not subject to such limited time constraints would inevitably be reallocated to the processing of ANDAs and petitions, thereby leading to significant delays in the approval of new compounds. (The limited patent restoration in the bill would be even less meaningful if the NDA review period is significantly increased.)

This problem is exacerbated because FDA must give priority to ANDA approvals. Under this legislation, FDA would be required to act on ANDAs within 180 days after initial submission. This is in contrast to the requirements under current law for both pre-1962 ANDAs and full NDAs. In the case of a full NDA, FDA need only act within 180 days of accepting an NDA filing as complete and the FDA has certified the application as meeting the statutory requirements of a completed filing. (21 U.S.C. § 355(b). See Newport Pharmaceuticals Int'l, Inc. v. Schweicker [1981-82 Trans. Binder] Food Drug Cos. L. Rep. (CCH) ¶ 38,148 (D.D.C. 1981).)

The shift in the workload and application review priorities of the FDA which would result from this legislation would not be in the public interest. Oddly, the FDA may have relatively fewer resources available to examine new drugs--which, of course, generally involve more sophisticated scientific and medical questions--than to examine generic copies of already-available drugs. The proposed scheme could indeed hasten the availability of generic drugs. But it may do so at a tremendous cost to those for whom effective treatment of a disease or condition awaits FDA approval of an important new pioneer drug. As a policy matter, consumers should not have to wait for promising new drugs -- currently unavailable to anyone -- while the FDA is forced to use its limited resources to approve copies of drugs which are already on the market.

We understand that the FDA has suggested a phase-in of eligibility for ANDAs. We believe this would ameliorate much of the workload burden while simultaneously making available immediately for ANDA treatment several of the drugs that are among the top selling prescription drug products.

## II. PATENT PROVISIONS DESERVE CAREFUL CONSIDERATION AND APPROPRIATE AMENDMENT

I would be remiss if I did not briefly describe the significant patent-related concerns which our group has with this bill. In the past Representative Henry Waxman, who introduced this legislation in the House has said:

> On first glance the proposal to restore patent term appears to be a simple and straight-forward issue of equity. But, ... it is really a complex and difficult public policy decision which requires a careful balancing of the need for incentives for pharmaceutical innovation and the societal impact of those incentives.

S. 2748 is by far the most intricate measure of its type ever introduced, and some of its effects on pharmaceutical patent issues are not immediately clear. On careful examination, though, several flaws relating to the patent provisions become apparent. Most important, it would limit unduly the kinds of drugs and patents that would benefit from patent term restoration under the bill: products with multiple patents, significant improvements to existing products, and other worthwhile uses of the pharmaceutical research investment all would be ineligible for restoration under S. 2748. The bill's proposed restrictions on existing patent rights and the lengthy litany of the types of patents not eligible for patent term restoration could have far ranging adverse effects on the development of new technology in this country, including serious implications for the future of university-based research and the emerging and vitally important field of biotechnology. The bill will encourage needless patent infringement and premature patent litigation by its undermining of the current statutory presumption of patent validity. Commissioner Mossinghoff yesterday testified to the serious and undesirable changes. S. 2748 would also provide for the retroactive taking of important patent ownership rights without just compensation, and it would require the FDA to disclose valuable proprietary data to competitors both here and abroad. We hope to address these patent issues in detail before the Senate Judiciary Committee, and urge that they be considered fully in that forum.

The 98th Congress must deal with many difficult and controversial problems, but none are more challenging nor more crucial than the need to reverse the decline in U.S. innovation and productivity. Congress must not only be concerned with how to reverse this trend, but must also avoid unintentionally stifling U.S. technology.

U.S. pharmaceutical companies have been pre-eminent in developing and disseminating health-giving products in this country and throughout the world. But this country's continued leadership in this field and its international competitiveness are in jeopardy.

- The U.S. share of world pharmaceutical R&D expenditures has fallen from greater than 60 percent during the 1950s to less than 30 percent now.
- The U.S. share of world pharmaceutical exports has fallen from greater than 30 percent before 1960 to less than 15 percent today.
- The number of new drugs entering clinical trials and owned by U.S. firms has steadily dropped from an yearly average of 60 in the mid-1960s to about 25 a year now. In contrast, the number of comparable foreign-owned new drugs has remained almost constant at about 20 a year.
- The percentage of world pharmaceutical production occurring in the United States has fallen from 50 percent in 1962, to 38 percent in 1968, to 27 percent in 1978.
- Smaller U.S. pharmaceutical firms self-originate fewer new drugs than before 1960 and are increasingly dependent on foreign firms for licensing new products, though licensed products still make up less than half of drug introduction by small firms.

By any measure the pace of America's drug innovation is slowing. Unless Congress and the public are willing to provide meaningful incentives for pioneering research while ensuring the safety and effectiveness of all drug products, then investment in private pharmaceutical research is likely to decline and will no longer provide the kind of products that have brought such an improvement in public health over the past 30 years.

One big step in the right direction would be to restore the eroded effectiveness of the U.S. patent system for certain products, such as pharmaceuticals, that are subject to elaborate pre-market approval requirements by the Federal Government. Under current law, the Government grants a 17-year patent and then prohibits the pharmaceuticals from being marketed until all FDA-required tests are completed and reviewed, and approval is obtained. During this time, the life of the patent is ticking away, often for many years. For example, FDA reported that of 205 drug products approved between 1962 and 1978, 51, or 25%, had no or comparatively little, effective patent life at the time of approval. (Appendix B.)

Gradually, the time needed to clear the regulatory review has grown longer, as products and tests have become more sophisticated and the regulatory resources of agencies like the FDA have become stretched to their limit. In 1962, for example, it took approximately 2 years and $6 million to bring a new medicine from the laboratory to the marketplace. It now takes an average 7 to 10 years and about $70-85 million to complete this testing period. Thus, it is not uncommon for a drug product to have lost up to one-half of its patent life without having yet been marketed. (Appendix B.)

This phenomenon, coupled with the inability of many new products to recover their investment, discourages innovation. For example, from 1955 through 1962, an average of 46 drugs were introduced annually in the United States; today, for a variety of reasons, that average is only 17 drugs a year, a decline of 63 percent.

This reduction in the number of drug innovations strongly indicates that the public is being deprived of new therapies. A decline in pharmaceutical patent lives -- the result of inadvertence rather than Congressional intent -- could erode the investment research incentive provided by the traditional 17-year statutory patent term. No one could have anticipated that a testing and approval process that took about two years in the early 1960s would take seven to ten years by 1980. Our group of companies urges that it is time to rebuild the incentives originally provided by the patent system by providing meaningful patent term restoration.

We realize how difficult it is to draft a bill that accommodates all the multiple objectives touched by S. 2748. This is a bill that purports both to accomplish patent restoration and to promote the availability of generic drug products without sacrificing safety and effectiveness. But amendments are needed to achieve these objectives.

On one hand, the patent term restoration provided by the bill is, in many cases, illusory because S. 2748 contains restrictions on the eligibility of patents for restoration. In fact, at least one provision would actually shrink existing patent protection. That provision, Section 202, would reverse the decision recently rendered in Roche Products, Inc. v. Bolar Pharmaceutical Co., No. 84-560 (Fed. Cir. April 23, 1984) by the Court of Appeals for the Federal Circuit . The reversal of Bolar with respect to existing patents is clearly inequitable. On the ANDA side, the bill would create a number of new regulatory problems. Overall, we are concerned that it would reorient FDA's priorities toward approval of ANDAs and release of proprietary safety and effectiveness data, and away from approval of important new drug therapies. This result would be bad policy and could create public health problems.

We submit that encouraging research leading to new drug therapies is at least as important as streamlining the approval process for generic copies of drugs. S. 2748 has been described by its proponents as a politically attractive bill because, as a compromise, it has something for everyone: patent term restoration for the research-oriented pharmaceutical industry and increased availability of generic drugs. However, as currently drafted, it is not a successful compromise because it severely restricts patents eligible for restoration and undermines the basic principles of established patent law. Nonetheless, we firmly believe that the concept underlying this legislation is indeed attractive because both patent term restoration and safe and effective generic products serve the best interests of the consumer. Consumers benefit not only from price competition among the finite number of existing approved drug therapies, but also from the development of new cures and treatments. Obviously, unless a new drug is developed there can never be a generic copy of that drug.

For this reason, we believe it would indeed be undesirable for Congress to create a regulatory process designed for specific existing generic drugs that would discourage further advances in drug therapies. It would also be unfortunate if Congress imposed new requirements and administrative burdens on the FDA that threatened its ability to adequately review New Drug Applications and limited its discretion to safeguard the public.

## CONCLUSION

In conclusion, our group supports the legislative objectives of this important bill, but we believe that there are changes which must be made to improve and clarify the legislation. Moreover, we wish to impress upon this Committee the need for careful consideration of the complex and controversial health and public policy questions raised by the legislation. We stand ready to work with the Committee and its staff so that a meaningful and fair bill can be enacted this session of Congress.

Thank you very much for the opportunity to address this Committee.

Senator HAWKINS. Thank you, Mr. Willaman.

Your testimony mentions patent concerns felt by a number of the research-oriented pharmaceutical firms, concerns which were rather extensively examined yesterday in the House Judiciary Committee before Representative Kastenmeier and others in the hearing on H.R. 3605, the corresponding House version of S. 2748.

So that the other members of this committee may have the benefit of pertinent comments made on that occasion, I will, without objection, include in the record pages 10 through 28 of Mr. Stafford's written testimony, as well as that rendered by the Commissioner of Patents and Trademarks, Mr. Mossinghoff, Dr. Donald Cape, of Cetus Corp., and Prof. Norman Dorsen and Mr. William Shyler.

I would also like to invite all the witnesses to submit in writing any comments or responses they may have to the points made in these statements.

Mr. WILLAMAN. Thank you very much.

[Excerpts from the statement by Mr. Stafford, and the prepared statements of Mr. Mossinghoff, Mr. Cape, Mr. Doren, and Mr. Schuyler before the House Judiciary Committee on June 27, 1984, follow:]

EXCERPTS FROM STATEMENT BY JOHN R. STAFFORD BEFORE THE HOUSE JUDICIARY COMMITTEE ON H.R. 3605, AS AMENDED, JUNE 27, 1984

## II. ANALYSIS OF H.R. 3605

### A. Unfulfilled Commitment -- Discouraging Innovation by Limiting Drugs Eligible for Restoration

This bill purports to be a fair balancing between the need for swift FDA market approval for products whose patents have expired and the need to restore the portion of patent life lost to regulatory delay. However, patent term restoration as offered in the bill is, in many cases, illusory and the ANDA provisions go far beyond what is necessary to provide prompt approval for generic drug products after the expiration of valid patents. In reality, the bill effectively denies patent term restoration for a variety of new drug products. This result is accomplished through detailed and complicated restrictions on the types of patents eligible for restoration. If the objective of the bill is to restore incentives for pharmaceutical innovation, then patent term restoration must reflect the reality of pharmaceutical research and development, and apply to a broader range of drug patents.

- The Species v. Genus Patent Problem.

Section 201(a) (proposed 35 U.S.C. 156(a)(4)) of the bill prohibits patent term extension for cases in which the applicant holds, or will hold, more than one patent claiming the drug in question. Many new pharmaceutical innovations will thus be ineligible for restoration because they will, in fact, be covered by more than one patent held by the same owner or exclusive licensee. As an example, many drugs are claimed both by a patent with claims of broad scope, the genus, and also by a subsequent patent claiming a specific compound, or species within the genus.

After the initial discovery leading to the genus, pharmaceutical research is ordinarily continued on families of compounds sharing similar chemical structural features and often similar biological characteristics. The objective is to study the entire family and to identify new compounds within the family that appear to provide more of a likelihood of therapeutic promise than other compounds within the genus. The R&D expenses to take a new medicine from discovery to market approval range from $70-80 million. Section 201(a) would prohibit patent term restoration on the species patent if the holder of the genus patent conducts this species research, and would allow it only if the two patents are forever held by separate owners.

For example, the Squibb Corporation obtained a patent on the genus of 9-halosteroids and later was able to develop two popular topical steroids from this genus: Kenalog (triamcinolone acetonide) and Halog (halcinonide). Wyeth Laboratories obtained a patent on a genus of anti-anxiety agents, which has led to the development of four specific drugs--

oxazepam (marketed as Serax), lorazepam (marketed as Ativan), pemazepam, and lormetazepam. Had H.R. 3605 been in effect when these patents were issued, none of these products would have qualified for restoration because each was covered under a species patent and belonged to a family identified in an earlier genus patent. This destroys much of the incentive to develop new compounds under the genus patent.

- The Split Application Problem

Another way in which a compound becomes covered by more than one patent is through division of the patent claims within the Patent Office itself. Under present law, the Patent Office can require that claims in a patent application be divided and prosecuted in separate patents. Over 80% of patent applications for chemical compounds are prosecuted in severed applications. This requirement is met as part of the patent prosecution or by the Patent Office itself upon examination of the application. At this early stage of drug development, the patent applicant is forced under this bill to choose which compound to prosecute first. Under section 201(a) of H.R. 3605 (proposed 35 U.S.C. 156(a)(4)(A)), the first-issued patent of the series would be the only patent entitled to restoration. Subsequently issued patents of the series would be precluded from restoration.

This restrictive provision is ill-advised because it unrealistically and unfairly requires manufacturers to determine in advance of FDA approval and marketing which patent in a series will cover the valuable products and therefore be worthy of extension. Because only the first-approved application would be eligible for extension, and patent applicants rarely know at the early stages of development -- when patent applications are made -- which aspects of a new product will become most valuable at a later date, patent term restoration becomes a game of chance. Moreover, even if the future commercial success of a new chemical compound was predictable, the patent applicant cannot assure that the patent claiming the potential successful product will be issued before the others, which is what the bill currently requires to ensure eligibility for patent term restoration. H.R. 3605 would thereby fail to provide the certainty requisite for investment and long-term research planning that will stimulate making discoveries available to the public.

## The Overlapping Patent-Product Problem.

Another exception to patent term restoration embodied in section 201(a) of the bill, proposed section 35 U.S.C. 156(a)(8), would apply where a substance is covered by multiple patents, each claiming a different use for that substance, or where a single patent covers two or more FDA-approved drugs. The term of claims in the patent covering the second FDA-approved drug could not be restored.

In the pharmaceutical industry, it is common for additional research on a patented drug product to lead to the development of new delivery systems, therapeutic indications, or dosage forms of the original product. These later innovations contribute significantly to the safety and effectiveness of drug therapy, and the later-discovered products deserve restoration to the same extent as the initial products of a patent. Yet the bill would provide only one restoration per patent, even when a company has expended considerable resources in developing the subsequent FDA approved products. For instance, in 1972 Merck and Company, Inc. was issued a patent on a beta blocker which resulted in a product called Blocadren, a highly effective cardiovascular drug which is used in the prevention of a second heart attack, the heart attack most likely to cause death. Though widely used in Europe, it was not approved in the United States until 1981 and therefore had only eight years left on the patent once it was brought to the U.S. market.

Merck continued its research on this compound long after it was marketed in Europe as a cardiovascular drug and in 1978 received approval from FDA to market the product for a new use. Merck had discovered that the same compound which was useful in the treatment of cardiovascular disease would also decrease intraocular pressure on the eye when used as eyedrops, making it a useful drug in the treatment of glaucoma. Merck obtained a patent for the glaucoma indication in 1980 and manufactured the drug under the brand name Timoptic. Timoptic, a breakthrough drug which in many cases eliminates the need for surgery, costs only 22 cents per dose and replaces a surgical procedure which costs approximately $800 per procedure and approximately $200 per day in hospitalization costs.

Under this proposed bill, the Timoptic active ingredient was claimed in the earlier issued patent for Blocadren, it would not be entitled to patent term restoration under subparagraph (4)(A) of section 201 of the bill. On the other hand, Blocadren was not approved in this country until 1981 while Timoptic was approved in 1978. Therefore, subparagraph (7)(A) of section 201 prevents the discoverer from getting restoration on Blocadren because Timoptic was approved first.

Schering-Plough has developed both Valisone (betamethasone valerate) and Diprosone (betamethasone dipropionate) from a single patent, and has turned the Diprosone formula into another form marketed as Diprolene, which has an improved delivery vehicle and allows lower dosages. None of the later improvements to these topical steroids would qualify for extension if H.R. 3605 were law, because they all arise under a single patent.

Just as one patent may cover two drugs, one drug or a family of drugs frequently is covered by more than one patent. Subsequent innovations to an existing drug may result in one product being covered by multiple patents. For example, the drug propranolol (Inderal) was patented in 1967 and is currently indicated for seven indications. Research continued on the agent and a patent was obtained for the new product, Inderal LA, in 1979. The new form of the drug is considered an improved therapy for four indications, largely because it requires less frequent doses and thereby stabilizes serum levels of the drug and raises patient compliance through less frequent doses. Yet since Inderal LA is covered by both the 1967 and the 1979 patents, the drug would be ineligible for patent term restoration under section 201(a) of H.R. 3605, proposed section 35 U.S.C. 156(a)(4).

Similarly, the compound Cyclapen-W (cyclacillin) received patent protection in 1965 as an antibiotic, and the product was later improved by formulating an anhydrous version that has a longer and more stable shelf life and was patented separately in 1971. Wyeth Laboratories, which now sells only the improved anhydrous version of the drug, would be ineligible for restoration of either patent's term if H.R. 3605 had been law at the time of Cyclapen-W's discovery. These examples show how H.R. 3605 unfairly restricts the products for which patent term restoration may be available, and would deny restoration for the very kinds of new inventions and innovations it purports to encourage.

- The Manufacturing Patent Problem.

Section 201(a) of the bill (proposed 35 U.S.C. 156(a)(5)(A)) limits availability of patent term restoration for patents covering a method of manufacturing (not using rDNA technology), including the limitation that no other type of patent has been or "may be issued for any known therapeutic purposes" claiming the method of using the product. New advances in pharmacological manufacturing techniques can contribute greatly to reducing the cost of drug therapy, and these innovations should be encouraged by providing for appropriate patent terms.

Furthermore, the bill contains special provisions for biotechnology and rDNA manufacturing techniques. Under proposed 35 U.S.C. 156 (a)(5)(B), the term of a process patent utilizing rDNA technology can be extended only if two tests are met: the patent holder of the method of manufacture is not the exclusive licensee or holder of the patent on the product itself (i.e., different ownership), and no other method of manufacturing the product primarily using rDNA technology is claimed in a patent having an earlier issue date. This second test would eliminate patent term restoration for much of the rDNA work being conducted, because a previously-issued dominating patent claiming rDNA technologies would exclude subsequently-issued "method of manufacture" patents from patent term restoration. This provision is overly broad, particularly where the dominating patent belongs to another party. One example of a dominating patent is the "Cohen-Boyer" patent developed at Stanford University, which covers basic rDNA manufacturing technologies. It would not take many of these broad-coverage, dominating patents to exclude almost all future rDNA innovations from restoration of term. The existence of these dominating patents will turn the patent term extension promised in proposed 35 U.S.C. 156(a)(5)(B) into a mere illusion.

### B. Encouraging Patent Infringements And Premature Patent Litigation

Under present law, a patent has a statutory presumption of validity. Under section 101 of H.R. 3605 (proposed 21 U.S.C. 505(j)(4)(B)(iii)), a competing drug manufacturer, a so-called "second-comer," can submit an ANDA on a patented drug, and give appropriate notice of this submission to the patent holder, who then has 45 days to institute a patent infringement action. Assuming such an action is brought, the second-comer is allowed to market the drug after the expiration of an 18-month period following the notice unless a court declares the patent valid within this period. This provision would institutionalize and provide incentive for a system of attacks on presumptively valid patents. It does serious damage to a patent system that generally -- apart from the regulatory system's inadvertent erosion of effective patent life -- has long served this nation well by fostering and promoting research, invention, and innovation.

Under section 101, the ANDA applicant can also force the patent holder to litigate the validity of the patent within 45 days of the initial submission of an ANDA, whether complete or not. This is in contrast to the current law which provides that a full NDA must be complete before it is considered filed. ANDAs are often incomplete and require revision and additional work before they are accepted for filing by the FDA. The bill does not require that the ANDA submission be complete, even though there is presently a comparable requirement of "due diligence" in prosecuting an NDA imposed under the patent term restoration side of the bill upon a patent owner seeking an extension of the patent. If a patent suit can be triggered even before a complete ANDA is filed, then some companies and groups of companies will be encouraged to attack unexpired drug patents. Their risk is slight because they will not have to invest in the research required for a complete NDA.

Presumably, section 101's 18-month delay in the ANDA effective date once an infringement suit is filed is intended to permit a court to adjudicate a patent's validity before the ANDA becomes effective. However, this provision is grossly deficient. As the Subcommittee is well aware, the trial of a complex civil suit such as patent litigation is almost never completed within 18 months. Congestion in the courts and the low priority assigned to civil relative to criminal cases can stretch patent litigation out for five years or more. In fact, it has been recently reported that the completion of trials of patent actions (calendar waiting time plus trial time) average 35 months, not counting the time spent in discovery or pre-trial motions. Report of Proceedings of the Judicial Conference of the U.S., March 16-17, 1983 and September 21-22, 1983, Annual Report of the Director of the Office of U.S. Courts, table C54 (1983).

If enacted in its present form, the bill is certain to generate increased patent litigation. Owners of unexpired patents will need to respond to virtually every second-comer's notice of an ANDA submission with a suit for patent infringement. First, failure of the holder of a valid patent to litigate would permit the FDA to approve the "me-too" company's or companies' ANDAs and permit infringing commercial sales. Profits from the infringing sales could permit the initial and subsequent generic manufacturers to finance patent litigation. Second, failure of the patent owner to respond may support an estoppel or laches defense in subsequent litigation. Patent issues rarely lend themselves easily to quick summary judgment or other prompt resolution. This could result in extended and terribly costly patent litigation to the patent owner during the early stages of a patent -- precisely when unencumbered patent protection is most useful.

If the infringement occurs close to the end of the patent term, a court might eventually issue a final ruling in favor of the patent owner but mandate only payment of monetary damages, rather than also ordering the infringing product off the market. This would further encourage patent infringement and litigation, by allowing a second-comer to market competing products before expiration of the patent term, merely by paying the equivalent of a licensing fee ordered by the court.

Since patents are presumed valid, an ANDA applicant should not get a free ride on the pioneer's original efforts to obtain an NDA and market a "me-too" drug until a court has fully and properly decided the patent's validity. Further, the bill should be amended to require, at minimum, a complete ANDA filing to trigger the initial steps that could lead to serious patent infringement.

### C. Commercial Testing During Patent Term

It is a long-accepted tenet of patent law that the unauthorized use, sale, or manufacture of a patented product during the life of the patent constitutes infringement. This aspect of the rights accruing to the patent owner was underscored recently in the case of Roche Products, Inc. v. Bolar Pharmaceutical Co., No. 84-560 (Fed. Cir. Apr. 23, 1984). The United States Court of Appeals for the Federal Circuit held, consistent with prior rulings, that a generic drug manufacturer may not use another company's patented discoveries for purposes of obtaining FDA approval until expiration of the patent term. This decision is sound law and necessary to prevent damaging, commercially competitive work on a patented substance while the patent owner is still entitled to exclusive rights.

The legislation under consideration today, however, goes further than merely overruling Bolar. It would permit a commercial competitor to engage in acts which would now constitute blatant patent infringement. It is surprising that this restriction on patent rights should be contained in a bill intended to restore patent life and encourage innovation. The competition in today's market for innovative drug products is extremely intense. In order to encourage this research while respecting the rights of the patent owner, adequate patent protection such as was reaffirmed in the Bolar decision is critical.

The bill would eliminate this important patent right not only for patents issued in the future but also for patents already in existence. This provision of the bill raises serious constitutional concerns. By overruling Bolar retroactively, the bill deprives current patent holders of valuable property rights and constitutes a "taking" without due process. Even if Congress wishes to overrule the Bolar decision, it should do so only prospectively and only for those patents eligible for patent extension under the bill.

We believe the provisions of the bill permitting a competitor to conduct commercial testing of an invention covered by a valid patent should be amended. It is one thing to overrule Bolar for drugs that will benefit from the patent restoration provisions of the bill; however it is clearly unfair to remove existing patent rights from drugs that are ineligible for any benefit under the bill. In any event, the attempt to apply such changes to already-issued patents raises serious constitutional concerns and must be - remedied.

### D. Government Disclosure to Foreign Competitors Of Valuable Proprietary Information

For over 45 years the FDA has not publicly disclosed, or allowed the release for any purpose not explicitly authorized by an NDA holder, any safety or effectiveness data contained in a pioneer NDA, while these data retain any commercial value. 21 C.F.R. 20.61, 314.11, 314.14. See 37 Fed. Reg. 9128, 9130-31 (May 5, 1972); 39 Fed. Reg. 44602, 44612-14, 44633-38 (Dec. 24, 1974); 40 Fed. Reg. 26142, 26148, 26168-7 (June 20, 1975); 43 Fed. Reg. 12869, 12870 (March 28, 1978). This interpretation of the FDC Act has consistently been upheld in court. E.g., Johnson v. DHEW, 462 F. Supp. 336 (D.D.C. 1978); Webb v. DHHS, Food, Drug, Cosm. L. Rep. ¶ 38,138 (D.D.C. 1981). See also, Pharmaceutical Mfrs. Ass'n v. Weinberger, 401 F. Supp. 444 (D.D.C. 1975); Syntex Corp. v. Califano, Food, Drug, Cosm. L. Rep. ¶ 38,221 (D.D.C. 1979). Cf. Public Citizen Health Research Group v. FDA, 704 F.2d 1280 (D.C. Cir. 1983).

Section 104 of H.R. 3605 would provide for a dramatic and ill-conceived reversal of this long-standing policy, although the bill's sponsors apparently maintain it would merely codify current FDA disclosure policy regarding drugs subject to ANDAs. It has indeed been FDA policy to allow for limited disclosure of material contained in NDAs. This policy, however, applies to pre-1962 drugs, and since adoption the regulation has applied only to data generated before 1962. The regulation was adopted before any serious consideration had been given to ANDAs for post-1962 drugs. It does not follow that a policy which may be appropriate for data which are at least 22 years old is sound for data developed relatively recently and which are of far greater commercial value. Moreover, in the course of its ongoing rewrite of the NDA regulation, FDA itself intends to revise this regulation to reflect the continuing proprietary nature of these data. The bill would negate this effort.

The bill would permit the public disclosure of all of the extensive and costly research data generated by research-based pharmaceutical companies, at least as soon as FDA approval of a generic version of the new drug could become effective, even though the data may be of significant value to foreign competitors or may retain proprietary value in the United States. Also, it is not clear in section 104 that the term "information" is limited to safety and effectiveness information as distinguished from other confidential data such as manufacturing methods and processes.

The data that would be released can retain commercial value, even though FDA would no longer require another applicant to submit the data to obtain approval for sale in the United States. These data would be commercially valuable because they could be used to obtain approval to market the drugs in foreign countries.

Senator Orrin Hatch earlier this year drove home the value of U.S.-produced technical data during efforts to tighten the Freedom of Information Act. Senator Hatch said:

> Foreign governments and foreign competitors of U.S. companies are able to obtain very valuable unclassified technical information simply by submitting a FOIA request to the Federal agencies that have paid to have the data developed. In fact, cottage industries have sprung up to systematically obtain and catalog such technical data, which they then market throughout the world.

The data disclosable under section 104 are particularly valuable in those countries which do not recognize U.S. patents. Thus, by providing for the release of these data, the bill hands foreign competitors of U.S. drug firms information which costs many millions of dollars to obtain and which can be used to obtain approval to market drugs in competition with the U. S. owner and generator of the data. This is hardly the way for this legislation to reverse the decline in pharmaceutical innovation and maintain the competitiveness of American industry.

Under section 104, trade secret data that now cost, on average, $70-85 million to generate per new drug would be freely released to anyone requesting them, including the innovating firm's foreign competitors. Competitors will copy the data and submit them to foreign drug regulatory agencies when they request permission to sell the drug abroad. Unlike FDA, most foreign drug approval agencies give preference in their approval decisions to firms of their own nationality. American firms can expect to lose market shares in these nations and, in some instances, watch a foreign firm get marketing approval instead of themselves.

Section 104, as presently drafted, may jeopardize U.S. pharmaceutical exports and numerous American jobs. The exports at stake are to nations that (a) require data in the application for market approval that, but for section 104, would not be publicly available, and yet (b) do not recognize product patents. (Appendix C).

In effect, under section 104 our government would give foreign firms, for merely the cost of photocopying, private U.S. commercial information needed by the foreign firms to go on the market in their home countries. It would be ironic if such a provision were enacted now, when the U.S. government is vigorously negotiating against international efforts to impose compulsory licensing requirements on U.S. patent holders.

As FDA noted, in its Technical Comments (Appendix D), this provision of H.R. 3605 also has significant resource implications for FDA. Under the FOIA, FDA is obligated to respond to requests for documents in its files, including the voluminous safety and effectiveness data, ordinarily within ten days and in special cases, within twenty days. Since the enactment of FOIA, FDA has consistently received more requests for documents than virtually any other Federal agency. In 1983, FDA received over 39,000 FOIA requests. One hundred twenty-five "full time equivalents," many of whom are highly trained scientists and doctors, were required to process these requests. Under H.R. 3605, over twenty years of safety and effectiveness data and information for off-patent drugs will be available for disclosure immediately upon enactment. If FDA were to receive requests for even a modest part of those data, the workload and resource burdens would be staggering. It is difficult to see how the public benefits by the FDA being forced to divert scarce resources to processing FOIA requests and ANDAs at the expense of new drug applications.

Despite the toll in jobs and balance of trade, Section 104 is unrelated to the goals of the bill, namely to expedite approval of generic drugs and to restore some of the time lost on patent during regulatory review of human and animal drugs and medical devices. Mandating disclosure of trade secrets would not affect the availability or pricing of generic substitutes, nor does it relate to the type or amount of information necessary for FDA approval of generics. In the United States, generic competitors do not need access to the raw data because the bill authorizes FDA to rely upon the innovator's data in making its decisions on the approvability of the generics rather than require that the generic firm duplicate the data.

Section 104 should be amended to require FDA to make available a detailed summary of safety and effectiveness data, but not the complete raw data. Also section 104 should be clarified so that the term "information" relates only to information on safety and effectiveness.

### E. Burdens On The FDA And Its Unnecessary Involvement in Patent Issues

The bill imposes a number of new administrative burdens on the FDA. While many of these bear upon FDA's traditional functions, many others involve FDA for the first time in the administration of the patent system. Contrary to the implication in the Report on H.R. 3605 of the Energy and Commerce Committee, these complex procedures and their effects on FDA have not been considered at any time. They deserve full and careful evaluation. We understand that FDA representatives are making their views known independently on some of these features of the bill and therefore we will leave it to the FDA to address important aspects of these new responsibilities. (Appendix D.)

# STATEMENT OF GERALD J. MOSSINGHOFF
ASSISTANT SECRETARY AND
COMMISSIONER OF PATENTS AND TRADEMARKS
BEFORE THE
SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES AND
THE ADMINISTRATION OF JUSTICE
OF THE
COMMITTEE ON THE JUDICIARY
U.S. HOUSE OF REPRESENTATIVES

H.R. 3605 AS AMENDED
"DRUG PRICE COMPETITION AND
PATENT TERM RESTORATION ACT OF 1984"

JUNE 27, 1984

Mr. Chairman and Members of the Subcommittee:

I welcome this opportunity to testify on the subject of patent term extension which would improve our patent system by providing an equitable approach to the effective length of patent terms.

The inequity to certain industries, whose inventions are denied a full patent term due to Federal premarketing approval requirements, has been widely recognized. This Administration also recognizes the need for remedial action to increase innovation. Therefore, it strongly supports enactment of legislation to restore the effective patent term to inventions subject to Federal premarket review. Also, two high-level bipartisan panels which have studied this problem, the National Productivity Advisory Committee and the President's Commission on Industrial Competitiveness, have strongly endorsed patent term restoration as a vehicle to promote renewed and increased innovation.

Mr. Chairman, I think it is fair to say that my previous testimony before this Subcommittee on H.R. 1937 during the last Congress and my prepared statement on H.R. 3502 submitted at hearings before your Subcommittee on March 28, 1984, fully explain the reasons for our support of legislation dealing with patent term restoration. Also, in his letter to you of June 20, 1984, the General Counsel of the Department of Commerce expressed the Administration's strong support for enactment of H.R. 5529, legislation which would provide for an extension of the patent term for patented products or patented methods for using or producing products which are subject to Federal regulatory review before commercial use. That legislation, however, is limited to products which are agricultural and industrial chemicals and animal drugs. H.R. 3605 as amended, does not apply to agricultural and industrial chemicals although it does extend its application to animal drugs.

Inventions in agricultural chemical technology and in the pharmaceutical field depend heavily on patent protection. Development of such inventions is extremely costly, and yet their imitation is often simple and inexpensive. Many other inventions need a far greater outlay of capital to duplicate, and they also may have a shorter commercial life before being overtaken by the advance of technology. Pharmaceutical and agricultural chemical inventions, on the other hand, often are commercially attractive even after the expiration of the patent term. This is evidenced by the large interest that the production intensive or generic drug industry displays in exploiting those inventions. This interest is healthy, and open competition should be encouraged. However, to the extent that a shortened effective patent term lessens the incentive for industry to continue making large commitments toward research and development, we must move to insure that these incentives are restored. Effective patent protection is a necessary prerequisite to pharmaceutical and chemical research, given the enormous costs and risks involved. In this regard, H.R. 3605 as amended, is intended to strike a compromise between the research intensive and the production intensive sectors of the pharmaceutical industry.

Title I of H.R. 3605 as amended, amends Section 505 of the Federal Food, Drug, and Cosmetic Act to provide for the approval of Abbreviated New Drug Applications (ANDAs). It would also make amendments to the Act to require applicants who file Paper New Drug Applications (Paper NDAs) to make the same certifications mandated in the filing of ANDAs and require the Food and Drug Administration to make approvals for Paper NDAs effective under the same conditions that apply to ANDAs.

Title II of this bill would add a new section 156 to title 35 of the United States Code to provide for an extension of the patent term for patented products or patented methods for using or producing products, subject to regulatory review pursuant to Federal statutes, before they are permitted to be introduced for commercial use.

Under H.R. 3605 as amended, these Federal statutes would be limited to the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act, and the virus, serum, toxin, and analogous products provisions of the Act of Congress of March 4, 1913. Title II would also amend section 271 of title 35, United States Code, dealing with patent infringement and would further amend section 282 of title 35 to provide for additional defenses in an action involving infringement of a patent during the period of the extension of its term.

It is our understanding that the broad concepts of Titles I and II of this bill were the subject of extensive negotiations between the two sectors of the pharmaceutical industry and represent a compromise acceptable both to the generic pharmaceutical industry as well as to a majority of the companies in the research intensive sector. The overall compromise to allow the generic companies to obtain ANDAs in exchange for patent term restoration to research intensive companies appears to be a reasonable solution, given that enactment of either concept by itself would have continued to receive strong opposition. Our expertise does not extend to the intricacies contained in Title I of this bill dealing with amendments to the Federal Food, Drug, and Cosmetic Act. Accordingly, I defer to the judgment of the Food and Drug Administration regarding the provisions of Title I. The provisions of Title II, however, strike us as being confusingly difficult and in some instances as unnecessary.

Title II of H.R. 3605 as amended, deals with patent term restoration and contains several rather complex provisions. Section

156(a)(4)(A) permits a patent which claims the product or method of using that product to be extended if two requirements are met. The first is that the product must not have been claimed in another patent which was either extended or which has an earlier issue date. The second condition is that the product and the use for which it is approved are not identically disclosed or described in another patent which had been extended or which has an earlier issue date.

This provision clearly restricts the potential for patent term extension. Section 156(a)(4)(B) does provide for an exception to the rule laid down in paragraph (a)(4)(A) for certain product patents. It provides that a patent claiming a product which was also claimed in an earlier patent may be extended if the patents are not held by the same owner. Thus, an earlier issued patent which claims a broad genus of compounds would not block the possible extension of a later issued patent claiming a specific species of that genus where neither patent holder had a choice as to which patent to extend. The broad underlying policy reflected in these provisions appears to be that only the first patent which either claims the product or which fully discloses that product and its use is the one which should be rewarded with an extension. In cases where the patent owner only holds one patent this policy is not unreasonable. However, this policy does not necessarily encourage the owner of a product patent to invest the sums needed for research and development to find new uses for his already patented product, or to try to isolate certain species of a broad chemical genus. I understand that the approval process for a new chemical entity is much longer than for subsequent new uses or species of that entity. Nevertheless, it would seem fair to allow patent term extension for subsequent patents which disclose new inventions.

Section 156(a)(5) specifies conditions for extension applicable to process patents. For patents claiming a process which does not primarily utilize recombinant DNA in the manufacture of the product, extension is possible only if no other patent had previously been issued claiming the product or method of using that product, and no other method of manufacturing the product is claimed in a patent having an earlier issue date. The underlying policy in this instance appears to be that the discovery of a new, non-recombinant DNA process for making an existing product does not warrant the reward of patent term extension. This appears somewhat unfair, especially if a newly discovered process for making a product, although not using recombinant DNA, otherwise represents a scientific and, therefore, possibly a commercial breakthrough.

Paragraph (B) of section 156(a)(5) makes an exception for manufacturing methods using recombinant DNA technology, but limits the possibility of patent term extension only to those cases in which the holder of a patent for that method does not also own a patent for the product or for a method of using that product. Again, in our opinion, this provision appears too strict.

If these complicated provisions have been included in this bill to prevent patent owners from benefitting from protracted patent protection through the obtaining of several patents relating to the same pharmaceutical product, then they are unnecessary. In my testimony on H.R. 1937, I addressed the subject of "evergreening" or "pyramiding" of patents. I stated then and repeat now that it is certainly possible to obtain process and use patents after a patent on the product itself. However, one should be clear exactly on what basis those patents are obtained and what kind of protection they afford. First, any patent issued must be patentably distinct from any other patent, which is to say, it must contain a different invention. If someone first obtains a product patent and later discovers another unexpected and patentable use for this product, that invention is entitled to protection. This is not an extension of the original patent or a merely obvious variation of the original invention; it is a separate and distinct invention, capable of being patented in its own right.

The same applies to a new discovery of a process for the manufacture of the originally patented product. If such a process is a separately patentable invention it is also entitled to protection. In such a case, the patentee of the original product has not extended the patent term of the product, he has made new inventive contributions to the technology. The patentee is therefore entitled to protection in turn for having publicly disclosed the invention.

However, what does a patent on a new use for a product or on a new process of making a product convey to the patentee? Regulatory review aside, if the original patent on the product has expired, the public is free to manufacture that product for all the uses for which the product was originally intended, as well as for any other use, except for the newly patented one. If a patent for a process or manufacture was also obtained, this particular new manufacture is protected, although the public is free to make the product in any other manner. As a consequence, the product itself does not enjoy continued and evergreening patent protection.

In two examples cited to us by the staff of the Committee on Energy and Commerce, to show how multiple patents may extend the protection of the original pharmaceutical, we found that the new use of the original products claimed in the later patents actually involved cancer treatments. The original use was only hormonal or bactericidal. We seriously question the wisdom of a policy which would not maintain the maximum incentives for investing in research to discover possible new cancer cures.

If the policy of these provisions is to allow extension only for patents claiming new chemical entities, then it changes nearly 200 years of patent law by instituting a system in which one patent is preferred over another. In our opinion, all patents should be treated equally. If a patent has lost a certain portion of its effective patent life to Federal premarket regulatory review, it should be made whole again. Only in this manner will the patent system continue to be a strong encouragement to innovation.

Lastly, these provisions place an unaccustomed burden on the Patent and Trademark Office. The determination which would be required by sections 156(a)(4) and (5) is not one which is now made by patent examiners who evaluate whether a particular claim in an application is patentable. These provisions would require determinations of infringement, involving concepts such as the doctrine of equivalents and file wrapper estoppel -- determinations usually made by courts. To be sure, examiners can be trained to make these determinations. But to the extent that these provisions attempt to cure a problem which we do not think exists, we do not favor having to expend our otherwise scarce resources. Should the Congress, however, decide that this is the appropriate policy, the provision in section 156(e)(1), to the effect that the determination may be made solely on the basis of information contained in the application for extension, is the only practical way to carry out this task.

Section 156(c) specifies the rules by which the length of the period of extension is determined. The calculation made under these rules is further limited by the requirements of section 156(g)(4). Under section 156(c), the length of the extension is based on the length of the regulatory review period in which the product was approved. All regulatory review periods are divided into a testing phase and an agency approval phase. Each phase of the regulatory review period is first reduced by any time during which the applicant for extension did not act with due diligence. The determination of any lack of due diligence is made under section 156(d). After any reduction in the period for lack of due diligence, one-half of the time remaining in the testing phase would be added to the time remaining in the approval phase to comprise the total period eligible for extension. This period by itself cannot exceed five years in accordance with section 156(g)(4). However, even if entitled to an extension of five years, this period would be further reduced in accordance with section 156(c)(3) if it exceeded the total remaining patent term by more than 14 years. This formula strikes us as being somewhat arbitrary. For example, we are at a loss to explain the reason why a patent, which is eligible for five years of extension and had ten years of the original patent term left at the end of its regulatory review period, should only be entitled to an extension of four of those five years to reach a total of 14 years.

With respect to the five-year cap, we supported the seven-year cap in earlier bills, because this period was based on data tending to support the claim that, on the average, a pharmaceutical patent lost that much time to the Federal regulatory review process. We do not know why this cap has been reduced by two years. To the extent, however, that such a reduction is the result of a compromise between the different interest groups involved, the Administration will not object to such a compromise.

Section 202 of Title II of the bill would add a new paragraph (e) to section 271 of title 35, dealing with patent infringement. Specifically, this section would provide that the making, using or selling of a patented invention solely for uses reasonably related to the development and submission of information needed for Federal regulatory review would not be an act of infringement. In this respect, the proposed legislation would overrule the recent decision of the Court of Appeals for the Federal Circuit in Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc., ___F.2d___, 221 USPQ 937 (Fed. Cir., April 23, 1984). In that case, the Court held that the experimental use of a drug product prior to the expiration date of a patent claiming that product constituted patent infringement, even though the only purpose of the experiment was to seek FDA approval for the commercial sale of the drug after the patent expires.

Overruling this decision would serve as an unfortunate precedent in curtailing the exclusionary rights accorded a patentee during the patent term. It has been alleged that one should be entitled to experiment with the patented product during the term of a patent to allow immediate competition the day after the patent term expires. It appears to us somewhat unfair to have the effective term of a patent begin somewhere in the middle of the 17-year term because of Federal premarket regulatory review and to let others use the patented product, or make or sell it during the patent term, solely to escape any delay caused by that same Federal review. In other words, if there is to be a policy to encourage competition immediately after the end of the patent term, it should also ensure that the patentee is accorded the full effective patent term to which patents on nonregulated inventions are entitled.

There are other specific provisions in H.R. 3605 as amended, which are either ambiguous, or could lead to different interpretations, especially in those parts of the bill which require the Commissioner of Patents and Trademarks to make a determination of whether a patentee is entitled to an extension of the patent term. I have not specifically addressed those issues because I believe that they could be resolved. A better solution to this bill, for instance, could be to maintain the overall compromise of combining the concept of obtaining ANDAs and patent term restoration, but to substitute in place of Title II of H.R. 3605 as amended, the simpler mechanism of patent term restoration along the lines of the bills on this subject in the last Congress, or as now contained in H.R. 3502.

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STATEMENT OF DR. RONALD E. CAPE
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
CETUS CORPORATION
BEFORE THE
SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES AND THE
ADMINISTRATION OF JUSTICE
OF THE
COMMITTEE ON THE JUDICIARY
U.S. HOUSE OF REPRESENTATIVES
HEARINGS ON H.R. 3605
JUNE 27, 1984

Mr. Chairman and Members of the Subcommittee:

My name is Ronald E. Cape. I am the Chairman and Chief Executive Officer of Cetus Corporation. Accompanying me is Harold C. Wegner of Wegner & Bretschneider, an attorney for Cetus and an adjunct Professor of Law at Georgetown University.

Since 1971, Cetus has pioneered the commercial application of biotechnology in the development of new or improved products and processes for human and animal healthcare and for the production of food, energy and chemicals. Cetus-modified microorganisms are currently used in the commercial production of antibiotics, vitamin $B_{12}$, and an animal vaccine containing components developed by Cetus through recombinant DNA technology.

Cetus has produced two potential therapeutic products through recombinant DNA that are now in human clinical trials. Preclinical data has indicated that these two products, beta-interferon and interleukin-2, may have significant value in the treatment of certain cancers and infectious diseases, including AIDS.

At Cetus Corporation we are proud that our pioneering efforts over the past decade have contributed to the development of the biotechnology industry. We are now in a position to demonstrate the promise of this industry by making new therapeutics and diagnostics available to the American consumer. However, continued success in meeting this goal depends upon whether our substantial investment of time and resources can be protected on an exclusive basis for a reasonable period.

Stimulation of biotechnology is important and not at all inconsistent with the objectives of H.R. 3605. We are in complete agreement with the goals of H.R. 3605 to foster availability of drugs through the generic drug industry and to foster a return on the investment made to develop new pioneer drugs. Our concern is that the present form of the bill, as it relates to biotechnology companies, requires revision before those goals can be reached in a fair and reasonable manner.

Cetus has not been included in the discussions of the past months between the generic and research-based pharmaceutical companies, which have resulted in this Bill. We were not invited to these lengthy negotiations, nor did there appear to be any reason to become involved in a process that would reach the laudable goal of providing inexpensive, off-patent drugs to the public. After all, our potentially most significant products, such as the potential cancer therapeutics, are still in clinical trials or in our research laboratories. The patents covering these products will not expire until the turn of the century.

We understand the desire to "balance" the benefits gained by the established pharmaceutical companies through extension of the patents on their marketed drugs with the ANDA process of Title I of the bill. We make no comment on whether this is the appropriate balance in the context of the varying interests of the established pharmaceutical companies and the generic drug industry. However, this compromise does have an inadvertent but substantial negative impact on companies such as ours. Title I will severely hamper our efforts to bring new products to the market, and yet no immediate counterbalancing benefit will be provided to us under Title II.

Congress, more than any other institution in America, recognizes the importance of incentives to domestic industry, including biotechnology. Congress also fully recognizes the important role that biotechnology is playing in the development of new drugs, including the search for products to detect and treat cancer. We read H.R. 3605 to possibly provide a disincentive to this vital research, albeit unintentional.

An amendment is needed to avoid the new biotechnology research disincentives for development of our vitally important industry, without therewith removing a single pharmaceutical product now in the marketplace from eligibility for an Abbreviated New Drug Application (ANDA).

Biotechnology, including its most modern tools of recombinant DNA and monoclonal antibody research, holds the promise of unlocking the secrets of the diseases that the established pharmaceutical industry has failed to unlock through usual chemical means. Thus, we are close to the early detection and treatment of cancer and highly infectious diseases such as AIDS.

We fully agree with the general principle that after the expiration of a patent, generic competition should be permitted, and indeed encouraged. Unfortunately, the present bill achieves this objective in a manner which creates several disincentives to future biotechnology research and could result in the delay of important new biotechnology products and reduce the number of drugs that will become available to the generic industry.

We support the concept that inexpensive drugs should be available after the pioneer has had a reasonable period for an exclusive position. Legislation meeting that objective could be passed, without affecting the biotechnology industry in an inequitable fashion.

## I. CANCER DETECTION AND TREATMENT, THE PROMISE OF BIOTECHNOLOGY

We take particular pride in what the American biotechnology community has accomplished in just a few years, and, more importantly, in what can be done in the next decade in the important areas of cancer detection and treatment. There will not be a single "cure" for cancer. But many specific types of cancer will be "fingerprinted" for early detection. Above all, ongoing research efforts hold the promise of actual cures for specific cancers.

## II. THE RIGHT CLIMATE FOR BIOTECHNOLOGY RESEARCH - THE BIG RISKS

Millions of dollars are required for research and regulatory approval of the breakthrough drugs being pioneered by the emerging biotechnology companies. Such an investment is undertaken in the hope that a particular recombinant DNA or monoclonal antibody invention can be developed in a safe and effective drug. In cancer treatment, a particular success may help only a small fraction of the population that has or will get cancer; with each success further research is needed for the next type of cancer.

Biotechnology companies in the United States can survive, and even flourish, in the expensive and risky world of cancer research with the current protections of the FDA and the patent system:

- Under FDA regulations, third parties are restricted from copying the exact approved formulation (but are totally free to either reduplicate the regulatory work or to make a different, competitive product).

- The patent rights in biotechnology under the present scheme are quiet rights, by and large free from short range litigation.

## III. WHILE JAPAN PROVIDES GOVERNMENTAL STIMULATION TO BIOTECHNOLOGY RESEARCH, CONGRESS SHOULD NOT PROVIDE A DISINCENTIVE TO DOMESTIC-BASED BIOTECHNOLOGY RESEARCH

The limited period of exclusivity that is today fairly certain provides the necessary incentive for future and continued cancer research. Both the United States and Japan presently provide this climate.

Just in the past ten years, Japan has made many statutory and regulatory changes to benefit pharmaceutical and biotechnological research. The patent law was greatly strengthened for pharmaceutical product protection; pricing policies for pharmaceuticals have put a premium on pioneer research; high technology drugs are given a period of up to six years exclusivity for marketing independent of the patent right.

Congress is keenly aware of the threat of international competition in biotechnology. Just this year the Office of Technology Assessment (OTA) has published a report manifesting the urgent need for progressive legislation. *Commercial Biotechnology: An International Analysis* (Washington, D.C.: U.S. Congress, Office of Technology Assessment, OTA-BA-281, January 1984) ("OTA Report"). The report summarizes that:

> Although the United States is currently the world leader in both basic science and commercial development of new biotechnology, continuation of the initial preeminence of American companies in the commercialization of new biotechnology is not assured. Japan and other countries have identified new biotechnology as a promising areas for economic growth and have therefore invested quite heavily in R&D in this field.
> [OTA Report, page 3.]

## IV. AMERICAN-BASED BIOTECHNOLOGY RESEARCH

With the present wording of H.R. 3605, the biotechnology industry is trapped in ways obviously unintended and undoubtedly unforeseen which hit directly at the heart of the two present regulatory safeguards, freedom from ANDA competition and quiet patent title.

### A. ANDA Freedom for a Reasonable Period

Exclusivity for a reasonable period of time is now a guarantee under the present law, as there is no ANDA possibility. Biotechnology needs a certain period of exclusivity free from ANDA competition for future drugs, as patent litigation would seriously dilute our clinical and research efforts. A number of finally litigated patent infringement test cases in modern biotechnology are necessary before conservative reliance can be placed exclusively on the patent system. In the modern biotechnology areas of both recombinant DNA and hybridomas, the total number of such finally litigated test cases is zero. Particularly throughout this decade when biotechnology patent case law has not been crystallized, we need freedom from ANDA's. Otherwise, it becomes virtually impossible to justify the investment in the sophisticated level of research necessary to enter the biotechnology marketplace.

To optimize present investment in biotechnology research, there simply must be a promise independent of the patent system that, after spending the tens of millions of dollars for research and regulatory review, a marketing position can be secured against "me too" competitors unwilling to incur these substantial costs and risks. Provision for an abbreviated new drug application (ANDA) immediately is unthinkable. Such competitors will discourage companies such as ours from making these investments.

Japan and the major European countries all give the pioneer a reasonable period of exclusivity for pharmaceuticals independent of the patent right.

It would be ironic when Japan provides an exclusive period for marketing of up to six years for new drugs under its Health Ministry regulations, for America to turn the opposite way and eliminate ANDA freedom altogether, except for the limited circumstances of the bill.

### B. The Litigation Incentives

The two titles of the bill taken together provide a strong incentive to litigate patents at the earliest stage. Whatever merit this may or may not have for more traditional areas of "big drug" research, this is the last thing needed for the relatively small and young biotechnology drug companies. At present, there is zero precedential law directly on point for biotechnology patent infringement in recombinant DNA and monoclonal technoligies. A carte blanche to foster early litigation will force the new American biotechnology industry to allocate a larger share of its resources for litigation of its patents, as opposed to investments in cancer research itself.

Cetus has had substantial funding and has a first class patent department. We expect the company to do quite well. Others may not be so fortunate.

### C. The Cash Flow of Biotechnology is Unique

Biotechnology companies are unique in the pharmaceutical field not only in terms of the patent situation, but more importantly from the viewpoint of their infant position in a major industry. Development of these products requires large investment of risk capital over a long period of time before substantial return can be realized.

Unlike the rich and established pharmaceutical companies, the vitality of the biotechnology industry is dependent upon careful conservation of cash. The major drug companies may invest money in patent litigation or the uncertainties of exclusivity. We do not believe this is an appropriate basis for the independent biotechnology companies. Yet, the promise of cancer detection and therapy is being met by the smaller, independent biotechnology companies that have shown the initiatives of the past few short years.

## V. PATENT TERM RESTORATION

### A. Cetus Supports (but Can Live Without) Patent Extension

Cetus supports patent term "extension" or "restoration", and perhaps that is a necessary goal for the traditional established drug companies. But, in the context of the 1980's, with Cetus' patent position on any new drugs expected to run to the year 2000, whether the patent expires in the year 2006 instead of the year 2001 is hardly a major factor in today's biotechnology investment decisions.

### B. Section 202 and Pre-Expiration Testing

Recombinant DNA technology will not go off patent on any major scale until after the year 2000. Whether a third party starts his clinical trials after a patent expires in 2001 or gets an early jump in the year 1999, is not just vitally important to our industry at this time. What is critical is that we provide Americans with new biotechnology drugs and methods of disease detection during the next ten years to create a new industry for future generations.

F

## VI. AMENDMENTS TO TITLE I TO KEEP FUTURE BIOTECHNOLOGY RESEARCH OPEN

Cetus and the other biotechnology independents must be given relief from the inequitable and unintended effects of Title I. Whatever happens in Title II may have long range importance, but is clearly not of immediate benefit to such independents.

Cetus is sympathetic to the goal of post-patent expiration drug competition. We wish to cooperate with Congress in achieving the goal of price competition, while providing a safe harbor for biotechnology research to continue and grow in California and elsewhere in the United States. We believe that this goal most sensibly would be achieved by providing a prospective exemption to new drugs from biotechnology research (recombinant DNA and hybridomas). Let the generic industry have all existing drugs now on the market, if that is the will of the traditional drug industry and the generics.

## A. Cancer Research, Not Painkillers and Antidepressants

A biotechnology company is not fungible with any of the old line pharmaceutical companies. What is good for the majors is not necessarily good for our developing industry. Cetus speaks for its own very real concern that its research in high technology areas such as cancer will suffer in the absence of special Congressional recognition of the unique problems caused by ANDA competition for biotechnology products.

Biotechnology research should be left out of the bill, or be given a more equitable treatment. Otherwise Cetus and the other biotechnology companies will be unable to address some of the more important life-saving areas such as cancer detection and treatment in their fullest capacities.

The more general non-biotechnology pharmaceutical industry is not the concern of the biotechnology companies. We are not impacted directly by whether the generic industry should or should not use traditional chemical synthetic routes to make a slightly different proprietary product with the same indication as the old product. We are thus not in the business of determining whether there should be a slightly better painkiller, a more precisely acting antidepressant, or a different sleeping pill. These are the primary concerns of the established pharmaceuticals companies.

## B. Prospective Relief is All Cetus Asks

Cetus has no interest in taking away any existing drug from the marketplace. We only seek the incentives for future research gained through an exception to H.R. 3605 for biotechnology.

This is far more in the public interest than the present wording of H.R. 3605, which even gives equitable relief in the case of some already approved drugs. Certain drugs already approved (but only since January 1, 1982) would be taken away from the supply of drugs to the generics under proposed 21 USC §505(j)(4)(D)(i). Biotechnology needs at least the same freedom.

## VII. SECTION 202 ENCOURAGES LITIGATION

Cetus is deeply troubled by Section 202 and particularly the invitation to litigate that is built into 35 USC §271(e)(2) and §271(e)(4).

If the relief sought in Title I is not forthcoming, biotechnology companies will indeed have to beef up their litigation budget and cut down on their future plans for at least domestic R&D expansion. The fuel of Section 202 added to the fire of a broad Title I is unacceptable.

With an exemption from ANDA's proposed under Title I, then the effects of Section 202 on biotechnology would be greatly reduced.

## VIII. EVERYONE BENEFITS FROM STRONG AMERICAN BIOTECHNOLOGY

All benefit from a strong domestic biotechnology industry:

### A. The Public...

The majority of cancer victims today die, despite some significant progress in chemotherapy. All suffer a significant impaired quality of life due to the side effects of this chemotherapy. Many physicians resist such treatment until there is no other recourse. Biotechnology products offer not only the promise of improved therapy, but the avoidance of these terrible effects. These products will be used much earlier in the course of therapy with much better results. The keys to a virtual revolution in chemotherapy are available from modern biotechnology of the 1980's. If biotechnology is given the climate to grow, some cancers are sure to be successfully detected and attacked in the 1980's, more in the 1990's, and then at some point in the next century cancer may become a disease of the past.

Whether we reach the promise of the 1990's already in this decade or perhaps only in the next century will be governed largely by the regulatory climate: Will money be put into cancer research or will better aspirin substitutes, Valium's and the like be where America puts its money?

### B. American Industry ...

The United States and Japan are struggling for preeminence in biotechnology. We welcome this open competition, and everyone in both countries and indeed the world will benefit. But as Japan improves its regulatory climate and incentives for biotechnology, America should not move backward to cripple our competitive efforts.

### C. The Generic Industry ...

The generic industry has shown no interest in moving into complex biotechnology. Virtually no products are available for an ANDA even without any restrictions, and the technology is far different and more sophisticated than conventional pharmaceuticals.

For the future, if the generic industry of the 1990's wants to move into biotechnology, a strong patent and regulatory climate now will lead to a large number of products which then may be available for such expansion. Without a strong system now, there may be no market to enter.

We hope that we may have the opportunity to aid the committee in recognizing the effect of this bill on our industry, and the need for careful consideration of the issues raised today. We hope to achieve an early resolution of these matters so that the objectives of the bill can be met in the fairest and most reasonable way.

Thank you, Mr. Chairman.

* * *

June 27, 1984

# STATEMENT OF NORMAN DORSEN CONCERNING THE CONSTITUTIONAL ISSUES RAISED BY SECTION 202 OF THE PATENT EXTENSION PROVISIONS OF H.R. 3605

My name is Norman Dorsen. I have been on the faculty of New York University School of Law since 1961, and have taught courses in Constitutional Law, Antitrust Law, The Legal Process and Legislation, among others. I am currently Frederick and Grace Stokes Professor of Law. Since 1980, I have also regularly taught as a Visiting Professor at Harvard Law School. I have written several books and law review articles and have often testified before Congress on constitutional issues. I served as President of the Society of American Law Teachers during 1972 and 1973.

From 1976 to 1977 I was Chairman of the Department of Health, Education, and Welfare, Review Panel on New Drug Regulation. Under my direction the Panel produced five volumes of studies on the drug regulation process. Since 1977 I have published articles on the regulatory process in the Annals of Internal Medicine and the Food Drug Cosmetic Law Journal.

I was asked by representatives of a coalition of research based pharmaceutical companies to review Section 202 of the proposed Patent Extension legislation to determine if the bill presents any serious constitutional problems. In my judgment, constitutional problems do exist and they are substantial.

## DESCRIPTION OF SECTION 202

Section 202 would reverse existing patent law which now gives the owner of a patent the exclusive right to make, use and sell the patented invention. 35 U.S.C. §§ 154 and 271(a). It would allow a third party to make, use or sell a patented invention for purposes "reasonably related" to the submission of information to obtain premarketing approval under the Food, Drug and Cosmetic Act in order to engage in the commercial manufacture, use or sale of the drug after patent expiration. The constitutional problem arises because Section 202 does not just apply prospectively to patents that will come into being after its enactment, but it also reaches back and takes away exclusive rights of current patent holders. After analyzing the existing statutory rights that will be taken from the patent holder under the bill, I am forced to conclude that Section 202 very likely violates the Fifth Amendment's prohibition against the taking of property for a public use without just compensation.

## THE BOLAR DECISION

Section 202 takes from the patent owner the same patent rights which the Court of Appeals for the Federal Circuit has declared belong exclusively to the owner under the present patent law. In Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc., ___ F.2d. ___, No. 84-560, slip op. (Fed. Cir. Apr. 23, 1984), the court held that Bolar, a generic drug manufacturer, unlawfully infringed a patent owned by Roche when, during the patent term, Bolar used the patented substance to prepare a submission to the Food and Drug Administration for the purpose of enabling Bolar to market the drug after the Roche patent expired. The Court of Appeals agreed with Roche that such "use" by Bolar of Roche's patented drug during the term of the patent grant for the purpose of engaging in federally mandated premarketing tests was part of the exclusive patent grant reserved to the patent owner. Having determined that Bolar's unauthorized use infringed Roche's patent, the Court of Appeals then held that "Roche is entitled to a remedy," in the form of an injunction or damages. Bolar, supra, at 16. It ordered that specific relief was to be fashioned in the first instance by the District Court to which the case was then remanded and before which it is now pending. In directing that remand, the Court of Appeals recognized that although the infringement involved a small amount of material, "the economic injury to Roche is, or is threatened to be, substantial . . . ." Bolar, supra, at 19. See also Pfizer, Inc. v. International Rectifier Corp., 217 U.S.P.Q. 157 (C.D. Cal. 1982).

## IMPACT OF SECTION 202 ON THE BOLAR DECISION

Section 202 of the proposed legislation would reverse the Bolar decision in its entirety, not just for the patent involved in that case, but for all existing drug patents. Indeed, the bill would go beyond the infringing conduct involved in Bolar by making it lawful for an infringer to make and to sell as well as to use the patented substance during the period of the patent grant, if done for the purpose of securing FDA approval of a new drug. It would also reverse existing patent law by prohibiting courts from issuing an injunction against making, using or selling the substance for that purpose, and it would withdraw from the patentee his current right to collect damages for such infringement.

## THE NATURE OF THE CONSTITUTIONAL PROBLEM

Because patent rights are a form of property, taking such rights from the owner raises a basic issue under the Fifth Amendment. The Constitution recognizes that from time to time it will be necessary for the government to acquire private property for public purposes, but by requiring "just compensation" for such taking, the Fifth Amendment protects the individual whose property is taken for the common good from being made to carry a burden that should, in fairness, be shared by the community at large. The Supreme Court has described the purposes of this clause in the following terms:

> "[The] Fifth Amendment's guarantee that private property shall not be taken for a public use without just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole." Armstrong v. United States, 364 U.S. 40, 49 (1960).

We tend to think of civil rights in terms of First Amendment rights of free speech and expression, but the "taking" clause of the Fifth Amendment is also a civil right, one which stands as a bulwark against governmental appropriation of vested property rights.

The Constitution imposes restraints upon government's ability to confiscate property just as it imposes restraints upon government's ability to confiscate our right to speak or the right of a newspaper to publish without censorship.

## THE CONSTITUTIONAL POLICY IN SUPPORT OF PATENTS

Any analysis of how Section 202 fits within the Fifth Amendment's "taking" clause must first look at the nature of the property that this bill will affect -- the patent grant.

I am always impressed when reminded by patent lawyers that the Constitution is itself the source of authority for the patent system. Unlike many governmental activities that surround our daily lives, the right to grant patents is not implied from some other general power, but is expressly decreed in Article I, Section 8, and the policy behind that authorization is plainly stated. A patent system is authorized in order "to promote the progress of Science and useful Arts . . . ." In applying Fifth Amendment principles to patent property, it is therefore important to keep in mind that patent grants are a reflection of a public policy that is as old as the Republic and one that has independent constitutional stature. It is well known that the patent system has been a great success. It has made a major contribution to this country's technological preeminence. The reliance which has been placed on our patent system by inventors and by those who underwrite research and development should not be chilled by retroactively stripping away existing rights.

## PATENT GRANTS, INCLUDING EXCLUSIVE USE RIGHTS, ARE PROPERTY RIGHTS PROTECTED BY THE FIFTH AMENDMENT

### Patent Rights are Property Rights

Existing patent law declares that a patent is a property right. Title 35, U.S.C. § 261 states: "patents shall have the attributes of personal property." Patents are not only defined as property; they also contain the essential elements of property. By statute, a patent grants its holder the right to exclude others from making, using or selling the patented invention during the term of the patent. 35 U.S.C. §§ 154, 271(a). A patent embodies "the right to dispose of a thing in every legal way, to possess it, to use it, and to exclude everyone else from interfering with it,"[1] which is the definition of property.

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[1] Black's Law Dictionary 1095 (rev. 5th ed. 1979).

Supreme Court rulings unambiguously reaffirm that patents are property rights protected by the Fifth Amendment. In William Cramp & Sons Ship & Engine Building Co. v. International Curtis Marine Turbine Co., 246 U.S. 28, 39-40 (1918), the Court wrote that it is "indisputably established" that "rights secured under the grant of letters patent by the United States were property and protected by the guarantees of the Constitution and not subject therefore to be appropriated even for public use without adequate compensation." Similarly, in Hartford-Empire Co. v. United States, 323 U.S. 386, 415, clarified, 324 U.S. 570 (1945), the Court stated "[t]hat a patent is property, protected against appropriation both by individuals and by government, has long been settled."

## The Right of Exclusive Use Is an Integral Component of the Patent Grant and Concomitant Property Right

In exchange for the benefits derived from innovation and invention, society, through a government patent, grants an inventor three co-equal rights: exclusivity of manufacture, exclusivity of use and exclusivity of sale. Each of these rights is necessary for the innovator to reap the commercial fruits of his creative labor. Because the right to exclude others from its use is the sole source of a patent's economic value, the protection of this trilogy of rights is critical to the viability of the patent system.

The federal courts have long recognized that an infringement of a patent holder's right of exclusive use or manufacture is as fundamental a conversion of property as an infringement of his right of exclusive sale. The unauthorized making of a patented product is an infringment because it allows a competitor to stockpile the product and flood the market immediately following expiration of the patent.[2] Similarly, reconstruction of a patented product involves economic activity directly traceable to the patent. Accordingly, courts have held that reconstruction other than by the patentee or its licensee violates the patentee's exclusive right to make the product.[3]

The right of a patent holder to exclusive use of his invention has also been protected rigorously. As the Supreme Court has put it, "an inventor receives from a patent the right to exclude others from its use for the time prescribed in the statute." Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405, 425 (1908).[4] Indeed, it is recognized that, "The very nature of the patent right is the right to exclude others." Smith International, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1581 (Fed. Cir.), *cert. denied*, 104 S. Ct. 493 (1983). In line with this longstanding policy, the mere testing of a patented product for commercial purposes has been prohibited -- both in connection with pharmaceuticals[5] and other products.[6] The purpose of exclusive use is evident: to preserve all commercially valuable uses for the patentee to exploit as he sees fit.[7] Tests and other uses of a patented product having a commerical purpose reduce the economic potential and value of the patent during its term. Under law all such economic benefits belong to the patent holder.

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[2] See, e.g., Underwood Typewriter Co. v. Elliott-Fisher Co., 156 F. 588, 590 (C.C.S.D.N.Y. 1907); American Diamond Rock Boring Co. v. Sheldon, 1 F. 870, 872-73 (C.C.D. Vt. 1880).

[3] See, e.g., Wilbur-Ellis Co. v. Kuther, 377 U.S. 422, 424 (1964).

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[4] *See also* Aro Manufacturing Co., Inc. v. Convertible Top Replacement Co., Inc., 377 U.S. 476, 484 (1964), where the Supreme Court stated: "unauthorized use, without more, constitutes infringement."

[5] *See*, *e.g.*, Roche Products Inc. v. Bolar Pharmaceutical Co., Inc., slip op. No. 84-560 (Fed. Cir. Apr. 23, 1984); Pfizer, Inc. v. Int'l Rectifier Corp., 217 U.S.P.Q. 157, 162 (C.D. Cal. 1982.)

[6] *See*, *e.g.*, Radio Corp. of America v. Andrea, 90 F.2d 612, 614 (2d Cir. 1937) (radio components).

[7] *See* Kaz Manufacturing Co. v. Chesebrough-Pond's, Inc., 211 F. Supp. 815, 818 (S.D.N.Y. 1962), *aff'd*, 317 F.2d 679 (2d Cir. 1963).

Even outside the patent area, the Supreme Court has recognized that the right to exclude others from the use of a possession is the touchstone of property. Justice Brandeis wrote that "[a]n essential element of individual property is the legal right to exclude others from enjoying it." International News Service v. Associated Press, 248 U.S. 215, 250 (1918) (dissenting opinion). Recently, in Kaiser-Aetna v. United States, 444 U.S. 164 (1979), the Court ruled that the federal government could not require a privately developed and operated marina to open itself to the use of the general public without the payment of just compensation. The Court held that

> "the 'right to exclude,' so universally held to be a fundamental element of the property right, falls within this category of interests that the Government cannot take without compensation." 444 U.S. at 179-80.

Section 202 seeks to accomplish with pharmaceutical patents precisely the result prohibited by the Supreme Court in Kaiser-Aetna with respect to the marina. It seeks to abridge a patent holder's existing statutory right of exclusive use in a manner which the Court of Appeals for the Federal Circuit -- the specialized appellate court with exclusive jurisdiction over patent appeals -- characterized as worthy of substantial monetary damages.[8]

### Section 202 "Takes" Property In Violation of the Fifth Amendment

The law has long recognized that a "taking" of property can occur even if the intrusion amounts to something less than a physical invasion by the government. Chief Justice John Marshall early pointed out that the Constitution is one of enumeration not definition, and so, like most of the great constitutional clauses, the "taking" clause is not confined to its literal text. Two threads run through the decided cases which explain the meaning of "taking." The first is an outgrowth of the traditional concept, where the government physically strips the property owner of a part of the bundle of rights that constitutes his property interest. The second line of cases does not involve physical takings, but rather takings through governmental regulation of an owner's use of his property where the regulation so frustrates legitimate expectations regarding the economic potential of that property that compensation is required.

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[8] Bolar, slip op. at 11.

Kaiser-Aetna is a leading case in the classical takings line of cases. In that case, the owners of the private pond, who had invested substantial sums to dredge and improve it into a marina, were faced with an effort by the Corps of Engineers to convert the pond into a public aquatic park. Despite the government's claim that its Commerce Clause powers to regulate navigable waters authorized public access, the Court ruled that the government lacked the authority to destroy the owner's right to exclude others from the marina without payment of compensation.

Where such a traditional taking occurs, the fact that only a small fraction of the entire property right is involved does not deprive the owner of Fifth Amendment protection. In Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982), it was held that a state law which authorized the permanent attachment of cable TV installations on apartment house premises constituted a taking which requires just compensation under the Fifth Amendment, even though the connector occupied only a tiny fraction of the property.[9]

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[9] In Loretto the Supreme Court made it clear that a nominal payment for a compulsory taking cannot meet the "just compensation" mandate of the Fifth Amendment.

In the second line of just compensation cases the law recognizes that takings can occur when governmental regulation prevents an owner from using his property -- even though the government does not physically occupy the property itself or transfer it to a third person. The reasoning underlying these cases is straightforward: where governmental regulation deprives an owner of the use of his property in a way that defeats reasonable investment-based expectations, significant and valuable property rights are effectively "taken" from the owner, bringing into play the protections afforded by the Fifth Amendment.[18] As one would expect, decisions analyzing the effect of such government regulation tend to be highly fact oriented, since the outcome will turn in large part on a determination of the owner's reasonable expectations. But, the rule of law is clear: even a statute which furthers an important public policy will be held to constitute a "taking" where it frustrates distinct and legitimate investment backed expectations.

The leading case is Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922). In that case, Justice Holmes held for the Court that a statute which regulated subsurface mining in a way that effectively deprived the owner of coal mining rights of the right to mine his coal was a "taking." By contrast, when the facts demonstrated that a state statute pursuant to which the Grand Central Terminal was designated a landmark did not interfere with the owner's investment-based expectations as to the use of the property, the Court found that there had been no "taking" even though the landmark statute prevented the terminal building's owners from further developing their property by constructing an office tower atop the terminal. Penn Central Transportation Co. v. New York City, 438 U.S. 104 (1978).

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[18] See Penn Central Transportation Co. v. New York City, 438 U.S. 104, 124 (1978).

There is a strong basis for concluding that Section 202 would be held to constitute a "taking" both under the reasoning of cases like Kaiser-Aetna, where a direct appropriation and transfer of the owner's rights was involved, and under cases like Pennsylvania Coal, where government regulation frustrated reasonable investment-based expectations.

As to the classic "taking" line of cases, the Bolar decision and other patent and nonpatent cases demonstrate that the right of exclusive use is fundamental to the ownership of patents -- even more than it is for other forms of property, since the sole source of a patent's value is exclusivity. The economic significance of this right is beyond dispute. The Bolar court expressly stated that the value of the patentee's right to exclusive use for pre-marketing test purposes was substantial. The impressive efforts of the generic pharmaceutical companies to secure passage of Section 202, and the equally vigorous efforts of some of the leading research-based pharmaceutical companies to oppose it, provide perhaps the strongest proof that the rights at stake have great commercial value.

If Section 202 becomes law, the exclusive right to make, sell and use the patented product for pre-marketing tests would be taken from the patentee and transferred to the infringer. Indeed, the taking contemplated by Section 202 is even more offensive than the taking condemned in the Kaiser-Aetna case. There, the government sought simply to give the general public an easement in a private marina. Here, the transfer is from a business to its competitor. Generic pharmaceutical firms will be given a special commercial advantage at the expense of research-based companies, in effect, a free ride to use, make and sell the research-based patentee's invention for a commercial purpose long before the patent expires.

This "free rider" provision underscores the fact that the equities have all run against the proposed Section 202. The company holding the patent funded the product's research and development and incurred costs associated with informing the medical profession and general public of its value and use. Having shouldered all the commercial expense and risk of bringing a new product to market, it is entitled to reap the patent benefits over the full life of its patent. We can assume that the bill seeks to achieve a valid overall purpose, but that objective is no substitute for the Fifth Amendment's requirement of fair treatment to a party whose property is being taken for public purposes.

Alternatively, if one examines the bill under the governmental regulation line of Fifth Amendment cases, the provision also presents serious constitutional problems. The distinct investment-based expectations held by owners of existing patents are founded upon the substantive protections written into the patent statute. The statute as it existed when the patent was granted established the scope of these property rights and expectations -- and it included a 17-year exclusive right to "make" and "use" the patented product. Section 202 withdraws from the patentee a central element of those rights, and thereby deprives an owner of property in a way that defeats his reasonable expectations.

The Police Power Exception is Inapplicable

Under certain circumstances, governmental regulation in the exercise of its police power to protect the public health, morals and safety can provide an exception to the taking clause of the Fifth Amendment. However, this exception is not coterminous with the reach of the police power and the mere invocation of the police power does not relieve the government of its "just compensation" obligation.

An examination of the police power cases demonstrates that the takings involved all sought to terminate specific nuisances or to halt isolated noxious uses of property that were a danger to the health, morals or safety of the community. Classic instances involved the operation of a brickyard within a residential area;[11] the prohibition of gravel excavation below the water line;[12] the cutting down of infected cedar trees to prevent a spread of the infection to neighboring groves;[13] and the halting of nonessential gold mining during a wartime emergency labor shortage when miners were needed to produce war materials instead.[14]

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[11] Hadacheck v. Sebastian, 239 U.S. 394 (1915).

[12] Goldblatt v. Hempstead, 369 U.S. 590 (1962).

It is manifest that these cases are radically different from the case presented by Section 202. The property uses that would be affected by Section 202 are not nuisances. Indeed, the patented substances are economically desirable and socially useful, and the exclusivity rights that would be extinguished are consistent with the policy of the Patent Statute and with Article I, Section 8, Clause 8 of the Constitution.

### No "Reciprocity of Advantage" Is Present

Section 202 is not analogous to certain zoning ordinances which have not been considered "takings" because they provide an "average reciprocity of advantage." *See, e.g.*, *Pennsylvania Coal Co.* v. *Mahon*, 260 U.S. 393, 415 (1922). In these cases, the Supreme Court has held that the zoning regulation at issue did not constitute a "taking" because the property owner was also advantaged by the regulation.

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[13] *Miller* v. *Schoene*, 276 U.S. 272 (1928).

[14] *United States* v. *Central Eureka Mining Co.*, 357 U.S. 155 (1958).

In this respect, a comparison with the Grand Central Terminal case is instructive. In Grand Central, while the owners were prevented by New York's Landmarks Law from building above the Terminal itself they nevertheless received from the government "transferable development rights" to build on nearby parcels. Here the proposed legislation does not grant any such reciprocity. On the contrary, a substantial imbalance is present in this bill between the patent extension section -- Section 201, which with minor exceptions extends patent life only for patents that will come into being after enactment of the bill (thus, most existing patents would not qualify for extension) -- and Section 202, which would apply retrospectively and prospectively and subject every drug patent to the loss of the patentee's exclusive right to use.

### Congress Cannot Take Back Property Rights in Patents Simply Because It Created Those Rights

The retroactive repeal of existing patent protection cannot be sustained as an exercise of the independent power of Congress to create patents, because it accomplishes the very opposite.[15] All property rights are created by the government because it is the government through its laws that permits private property to exist. Congress can no more appropriate by legislative fiat one's rights in a patent than it can appropriate one's rights in land. As the Supreme Court has noted:

> "A patent for an invention is as much property as a patent for land. The right rests on the same foundation, and is surrounded and protected by the same sanctions." Consolidated Fruit-Jar Co. v. Wright, 94 U.S. 92, 96 (1877).

There is thus no constitutionally significant difference between patent rights and other property rights; the Fifth Amendment's prohibition against uncompensated takings is applicable, in full force, to patents and the holder's right of exclusive use associated with that patent.

Similarly, with respect to the Bolar case itself, the legislation would take from Roche its court-determined right to obtain potentially substantial damages from Bolar for conduct held to be patent infringement at the time it occurred.

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[15] This point was made forcefully by Professor Laurence Tribe in his testimony concerning home video recordings. See Home Recording of Copyrighted Works: Hearings Before the Subcomm. on Courts, Civil Liberties and the Administration of Justice of the House Comm. on the Judiciary, 97th Cong., 2d Sess. 1216 (1982).

## PROSPECTIVE APPLICATION OF SECTION 202 WOULD AVOID THE "TAKING" PROBLEM

If Section 202 were merely prospective in its application, applying only to patents issued after enactment, the "taking" problem would be avoided entirely. While a retroactive law is not invariably unconstitutional, when retroactivity results in a "taking" of property, the Fifth Amendment is implicated, and if the legislation runs afoul of Fifth Amendment protections, it is unconstitutional.

Even though the Supreme Court recently upheld the constitutionality of a retroactive amendment to the ERISA statute under the Contract Clause where the effective date of the act was geared to the date the legislation was introduced, Pension Benefit Guaranty Corp. v. R.A. Gray & Co., 52 U.S.L.W. 4810 (June 18, 1984), retroactive legislation has, nevertheless, been a well of constitutional problems.[14] One authority

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[14] In United States Trust Co. v. New Jersey, 431 U.S. 1, 21-22 (1977), the Court invalidated a retroactive state statute that impaired preexisting contract rights when less drastic alternatives were available to the legislature. Compare also Lynch v. United States, 292 U.S. 571 (1934) (federal government prohibited from impairing its own contract obligations by legislation that cancelled war risk life insurance policies), and Allied Structural Steel v. Spannaus, 438 U.S. 234 (1978) (declaring invalid a state statute which materially altered the terms of a preexisting pension plan causing a permanent and immediate change in the expectations

[Footnote continued on following page]

has written that "It is a fundamental principle of jurisprudence that retroactive application of new laws involves a high risk of being unfair." Sands, Sutherland's Statutes and Statutory Construction § 41.02 (4th ed. 1972). The author explains:

> "One of the fundamental considerations of fairness recognized in every legal system is that settled expectations honestly arrived at with respect to substantial interests ought not be defeated." Id. at § 41.05.

Indeed, just this week, House and Senate conferees agreed to eliminate the retroactive feature of the legislation that was the subject of the Pension Benefit decision because of its perceived unfairness. See Cong. Rec. H6683 (June 22, 1984).

Retroactive legislation in the patent area presents a more clearcut case of unfairness than a retroactive pension statute because the government is a party to the patent grant. Patent owners rely on the express terms of the statute and on constitutionally grounded

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[Footnote 16 continued from preceding page] of the parties), with Home Building & Loan Ass'n v. Blaisdell, 290 U.S. 398 (1934), and Energy Reserves Group, Inc. v. Kansas Power & Light Co., 103 S. Ct. 697, 706-08 (1983) (permitting state legislation that impaired preexisting contracts).

public policy when they disclose their inventions. The issue raised by Section 202's retroactive application has been addressed in earlier judicial decisions. See McClurg v. Kingsland, 42 U.S. (1 How.) 202, 206 (1873) (new patent legislation "can have no effect to impair the right of property then existing in a patentee"); Diebold, Inc. v. Record Files, Inc., 114 F. Supp. 375, 376 (N.D. Ohio 1953) ("The constitutional principle of due process prohibits the retroactive application of the new statute and a resultant invalidation of the plaintiff's patent claims").

To avoid the constitutional difficulties inherent in retroactive legislation, Congress has traditionally been careful to limit the effect of new statutes on existing patent rights. This was most evident in the Patent Act of 1952, which revised and codified the patent laws and repealed prior laws. There, Congress specifically provided that "any rights or liabilities now existing under such [repealed] sections or parts thereof shall not be affected by this repeal." Act of July 19, 1952, c. 950, § 5, 66 Stat. 815.

Whatever validity retroactive legislation may have in other areas of the law, it is plain that such statutes cannot abrogate the protections afforded by the Takings Clause of the Fifth Amendment. Since Section 202 seeks to accomplish just such an abrogation of Fifth Amendment rights, its constitutionality is seriously jeopardized.

## CONCLUSION

In sum, as a matter of constitutional law, Congress without providing just compensation cannot abridge patent and property rights it has conferred and upon which inventors and investors have reasonably relied. This is precisely the aim of Section 202. The rights involved are substantial and the constitutional infirmities significant.

STATEMENT OF

WILLIAM E. SCHUYLER, JR.

BEFORE THE

SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES

AND THE ADMINISTRATION OF JUSTICE

OF THE

COMMITTEE ON THE JUDICIARY

U.S. HOUSE OF REPRESENTATIVES

ON

H.R. 3605

DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

JUNE 27, 1984

My name is William E. Schuyler, Jr. For more than 40 years, I have been extensively involved in the patent profession in both the public and private sectors. During the period 1969-71, I served as the Commissioner of Patents and during that term represented the U.S. in negotiating the Patent Co-operation Treaty. I was appointed Ambassador and Head of the U.S. Delegation to the 1981 session of the Diplomatic Conference for Revision of the Paris Convention for the Protection of Industrial Property.

I am appearing today at the request of a coalition of many of our nation's leading research based pharmaceutical companies who asked me to review H.R. 3605 and provide the Committee with my views on the content and practical application of the bill in light of my experience in patent prosecution, litigation, international negotiation, and as a former Commissioner of Patents.

At the outset, let me make three key points:

o Provisions of this bill encourage premature litigation by patent owners in many situations where substantive commercial controversies will not later materialize.

o By denying extension to many patents on worthy inventions, the bill in its present form is a very real disincentive to research in those areas.

o By compelling the Executive Branch to disclose trade secrets of U.S. manufacturers to foreign competitors, that industry and our economy will be adversely affected by a loss of jobs and by an unfavorable change in the balance of trade.

## Patent Litigation

I would first like to focus on the provisions of Title I relating to patent infringement and validity issues. Provision is made for an Abbreviated New Drug applicant to notify a patent owner that an application has been submitted to obtain approval to engage in commercial manufacturing of a patented drug before the applicable patent expires. For forty-five days after such notice, the applicant is precluded from seeking a declaratory judgment that the patent is invalid or not infringed. If the patent owner sues the applicant for patent infringement within the forty-five day period, then approval of the ANDA will be delayed until the litigation is decided, but in no event more than 18 months. As the Committee is well aware, trial of complex civil suits, like patent suits, is almost never completed within 18 months. An average pendancy of four years would be a better estimate, due primarily to congestion in the courts.

Because the applicant may serve such notice at the time of first submitting an ANDA to the Food and Drug Administration, applicants will, at minimal expense, have the opportunity to serve the notice with respect to inumerable drug products. Patent owners will likely respond to virtually every notice by filing suits for patent infringement -- for a couple of reasons: First, failure of the patent owner to respond may support an estoppel or laches defense in subsequent litigation.

Second, the eighteen-month delay in approval of the infringing product will afford short term protection to the patent owner.

As a result, it is likely that the courts will be inundated with patent litigation of issues that will not necessarily result in commercial controversies. That will certainly complicate the current congestion in the Federal Courts, and cause even longer delays in civil litigation.

This bill is saving generic manufacturers a number of years and tens of millions of dollars now required to obtain approval of a new drug application by permitting them use of the data generated by the innovator. Even a two year delay of approval of an ANDA from the submission of a completed ANDA, as proposed in an earlier draft of the bill, leaves the scales balanced heavily in favor of the generic manufacturers.

To limit the litigation triggered by this bill to those situations involving bona fide commercial controversies, I suggest that the timing of the notices to the patent owner be made coincident with filing of a completed ANDA. At that point the infringer will have invested sufficiently in his application to show his true intent to reach the commercial market, and the numbers of law suits will be dramatically reduced by weeding out some of the notices of invalidity which border on the frivolous. Also, the abitrary and unrealistic eighteen month period for litigation should be eliminated, with the Court having discretion to make effective the ANDA before final adjudication only if the patent owner fails to reasonably cooperate in expediting the action.

## Patents Ineligible for Extension

Title II excludes various types of patents from eligiblity for restoration and places substantial limitations on the length of restoration. Reportedly, the drafters of this legislation have chosen to do this because they believe certain types of patents are amenable to manipulation of patent issuance, and therefore expiration dates, and because they believe Congress has not received data on significant regulatory review delays on other than new chemical entity products. (See House Energy and Commerce Committee Report on H.R. 3605, page 30.) The first rationale has been addressed by provisions in the bill that limit the term of an extended patent to no more than 14 years after regulatory approval of the covered product. Moreover, there is a provision that limits restorable time to that occuring after the patent issues but before regulatory approval. In light of these two very substantial limitations, the patent exclusions set forth in Section 156(a) are excessive and unnecessary. If the second rationale is true, it is irrelevant because the bill does not grant restoration in the absence of regulatory delay. More importantly, any arbitrary exclusion of patents eligible for restoration may unwittingly skew research to less than optimal therapies.

Exclusion 4 produces the greatest deleterious effect by providing that a patent claiming a product (or a method of using the product) may be extended only if the product is not claimed and the product and approved use are not identically disclosed or described in another patent having an earlier issuance date or which was previously extended.

To appreciate the mischief generated by this provision, one must have some understanding of pharmaceutical research and patent practice.

Pharmaceutical research is normally conducted on families of compounds sharing similar structural features and (it is hoped) similar biological characteristics. The object is to study a sufficient number of compounds in the family so that enough commercial candidates will appear to provide a likelihood of generating at least one commercial compound. I should note in passing that the research and development expenses to bring one commercial compound from discovery to commercialization have been estimated to be on the order of $70-85 million dollars.

The practice of pharmaceutical research to concentrate on families of compounds leads inevitably to the filing of patent applications on these families of compounds which were discovered. Since a patent application must be filed at an early stage of research to avoid potential loss of patent rights, only preliminary screens of the compounds will have been conducted. There is generally no suggestion at the time the patent application is filed as to which members of the family (if any) will be commercially successful.

## Divisional Applications

In the normal course of examining a pharmaceutical patent application, the Patent Office frequently requires that the claims in the application be divided into several applications for "subfamilies", depending on the classification system employed by the Patent Office and on the Examiner's decision as to the appropriate scope of protection for a single application. The patent owner must then select one of the subfamilies for examination in the originally-filed ("parent") application and file additional applications (called "divisional applications") claiming each of the other promising subfamilies of compounds. These divisional applications would contain the same disclosure as the parent application but each would contain claims directed to a different subfamily. The decision to divide the application into a number of subfamilies is made solely by the Patent and Trademark Office.

With this as background, it will be apparent to the Committee that the later-issued divisional applications would be precluded from extension by exclusion number 4 because of the earlier-issued parent application disclosing the entire family of compounds and their intended use. Since the patent owner generally has no idea at the time of filing the "divisional application" which member of the family of compounds (if any) will be commercially successful, he is unable to insure that the commercial compound is claimed in the parent application. Exclusion 4 would therefore arbitrarily deny extension to patents covering approved products merely because an earlier issued patent discloses the product. It is unnecessary and should be eliminated.

## First filed, later issued applications

The committee should also appreciate that patents do not always issue in the order in which they are filed. Some applications encounter difficulties and problems in the Patent Office, while others are allowed quickly. By making the issue date the operative criterion, this provision of the bill could injure a party whose earlier-filed patent issues later. For example, a research-based pharmaceutical company might discover a family of compounds which appear, in preliminary screens, to have utility for treatment of certain forms of cancer. If this company files an application directed to these compounds, it is certain to face a rigorous examination by the Patent Office because of the general skepticism with regard to cancer treatment. Continuing along with the example, suppose that other researchers at this company develop a new and patentable process for preparing these compounds and that a second patent application is filed claiming the process. Because of the requirements of patent law that a patent application claim a useful invention, the second patent application would necessarily have to disclose the compounds which are made by the new process and their therapeutic utility. If the second-filed application issues first (as well it might), the first-filed application directed to the compounds would be ineligible for extension under exclusion 4.

## Interferences

The United States Patent System awards a patent to the first inventor, not necessarily to the first person to file an application. If two applications are filed claiming the same invention, a contest occurs (called an "interference") to determine priority of invention and thus ownership of the resulting patent. This contest can occur not only between two or more applications, but also between one or more applications and an issued patent. If in such a situation the owner of the patent application were determined to have priority over an issued patent, his resulting patent would nevertheless be barred from extension because his invention had been claimed in an earlier-issued patent. As a result of winning the interference he loses his right to an extension. This is but another example of the injustice created by exclusion 4. It should be eliminated for it serves no useful purpose.

## Genus/Species

Moreover, a certain type of patent, known as a "species patent" would be ineligible for extension under exclusion 4 if the owner also owns a "genus" patent.

Because pharmaceutical research requires a continual exploratory and refining process along parallel pathways, new candidates for commercialization are, not uncommonly, chemical "species" falling within a broad class ("genus") of chemical compounds claimed in a patent.

Frequently, the compound approved by FDA is not even specifically mentioned in the original patent, but is identified only after years of additional expensive research. An early promising compound may later be found to exhibit a problem such as an undesirable side effect, requiring the inventor to abandon it in favor of other "species" compounds falling under the same genus patent. Species patents can be obtained on later developments that are not specifically disclosed in the original genus patent if they meet the statutory requirements of novelty, usefulness, and unobviousness. Such patents are more important today than ever, because, with the advent of new drug delivery systems and the new biotechnologies, substantial new health care advances frequently occur many years following the original grant of the genus patent. But, the existence of a generic claim in the earlier patent will preclude extension of the later patent to a commercially viable "species."

Denial of extension of the term of species patents acts as a research disincentive and serves to curb and impair scientific research in this fruitful area, denies the public the benefit of important medical advances, and reduces jobs in the research-based pharmaceutical industry.

Because of its inherent faults, I recommend the removal of exclusion 4 from the bill.

## Other Restraints on Extension

The effects of exclusions 2 and 8 are well considered together. Exclusion 2 would deny extension to a patent which has been previously extended, while exclusion 8 would deny extension to a patent claiming another product (other than the one with respect to which extension is now sought) or method of using or manufacturing another product, which product has been previously approved by the FDA.

Bearing in mind that the extension of a patent is limited by the bill to the particular compound and the use approved, the fact that a patent covers one compound which has already been approved (and with regard to which the patent may have been extended) should not prevent an extension with respect to an additional compound claimed by that same patent. Please let me emphasize that I am not recommending serial extensions, but simply the applicable extension of the original term with regard to a second compound claimed by the patent. If the two products under consideration were claimed by separate patents, each patent would be eligible for extension with respect to the applicable product and the approved use. No different outcome should result because the two products happen to be claimed in the same patent. Exclusion 2 should be deleted to rectify this inequity.

Exclusion 8 is much the same, except that it would deny extension to a patent with respect to a particular product merely because it also claims a previously-approved product (even though the patent was not extended with respect to this previously-approved product). As an example of the reach of this exclusion, it is easy to conceive of a patent covering a family of compounds, one of which is rapidly approved as (e.g.) a topical antifungal. Because of the timely approval of this antifungal compound, the patent is not eligible for extension with regard to that compound. Included in the same family of compounds, however, is a compound which is useful for treatment of a more life-threatening disease, such as cancer. The approval process for this compound, both in the clinical testing and in the registration process, could be lengthy indeed and it might be many years after the issuance of the patent that this cancer-treatment compound is approved for commercial sale. To deny extension to the patent with respect to the cancer-treatment compound because of the previous approval of the antifungal compound would appear unjust. For this reason, exclusion 8 should be deleted.

It appears that the criteria for extension are designed to prevent supposed abuses in the patent system by which patent owners might to extend their period of exclusivity. I respectfully submit, however, that any such abuses of the patent prosecution process are adequately addressed by the provisions of the bill limiting the maximum extension of five years, and limiting any extended patent life to 14 years from the date of regulatory approval. Alleged abuses of the patent prosecution process cannot result in prolonging a patent beyond the term of 14 years after the date of regulatory approval.

## Disclosure of Proprietary Data

Allow me to focus a moment on section 104, which would hurt American companies trying to compete overseas by forcing disclosure of confidential data, including trade secrets. It gives unfair advantage to foreign companies seeking health registrations in their own countries. Most foreign countries give preference to their own nationals, making it easier for them to obtain approval to market drug products. At present, a number of countries do not even recognize drug product patents. Of these, more than half require submission of a substantial amount of technical information to obtain drug marketing approvals; and the number is increasing. These countries account for some $ 585 million dollars of total pharmaceutical exports from the U.S. The point is that if confidential data are disclosed to the public, we make it much easier for foreign companies to use those data to obtain approval and a head start in their countries.

The bill strikes two blows against American companies. First, it deprives American companies of trade secrets obtained at great cost (often measured in tens of millions of dollars). Second, it deprives American companies of the ability to make first use of these costly data to obtain approval overseas, thereby hurting their ability to compete effectively in those foreign markets, with adverse side effects on the balance of trade and domestic employment. To avoid this disaster, I believe it is essential that this valuable proprietary data be protected.

## Conclusion

For reasons stated, I recommend removal of exclusions 2, 4 and 8 from the bill. While the revisions I have suggested will resolve some basic problems, there are many additional technical points requiring careful attention. Also, I should point out that there are serious constitutional questions raised in the bill, one being the legislative overruling of the Roche v. Bolar decision as to patents issued prior to the effective date of the legislation. These questions also deserve careful attention in order to avoid future successful legal attack on the legislation.

Senator HAWKINS. Mr. Willaman, among the seven points which represent the major focus of your concerns is one which recommends the trigger mechanism for initiation of a patent challenge occur only upon the filing of a complete ANDA. Hasn't that been accomplished in the version of the bill we are considering today?

Mr. WILLAMAN. No; it is our understanding, Senator Hawkins, that the trigger mechanism would take effect upon submission of the ANDA, which may or may not be a complete ANDA. And the proper point where this trigger mechanism should take place is when the FDA has acknowledged that the submission is complete.

Senator HAWKINS. One criticism of patent term restoration is that there are already so many research incentives, from tax deductions to the industry's traditional high return on equity that restoration provisions will not result in increased research, but will only increase dividends. Could you comment on that?

Mr. WILLAMAN. Yes; I certainly don't agree with that. As I have pointed out in my testimony, the decline is evident of the pharmaceutical industry over the last 20 to 30 years, and it is continuing, and that is with the present incentives. We believe that this bill can provide additional incentives that would be most helpful to assuring that the investment, necessary investment and higher levels of investment, as a matter of fact, can continue and do continue to develop newer and more effective pharmaceutical products.

Senator HAWKINS. Mr. Stafford, I can appreciate the financial considerations that influence the pharmaceutical companies' decision to begin costly research and development of new drugs or biologics. I had some lengthy discussions with officials from American Home Products about their subsidiary, Wyeth Laboratory's, decision to cease production of their pertusis vaccine.

In that situation, the liability issue was the overriding concern, but to what extent has cost and complexity of complying with Federal regulations influenced your decision to develop safer drugs and vaccines?

Mr. STAFFORD. Senator Hawkins, we have been working, I think, as we had the opportunity to advise you, on a new vaccine. But because of the complexity and the length of time that it takes to develop and bring to market such a vaccine, under the present law—and we are not suggesting any change to that—we wouldn't be able to predict when that would be available on the market. We don't really have any objections to the provisions relating to the approval and marketing of those vaccines. That has not really been a hampering factor in that problem.

Senator HAWKINS. Do you often face a situation where you don't pursue the development of safer medications or vaccines because of the cost of the required testing?

Mr. STAFFORD. That would probably be a difficult question to answer without indepth discussion with our research people. If the opportunity were there to develop a safer product, that would, like a more effective product, be a better product for us to have in our line, and we would likely pursue that. However, all decisions on going forward with research expenditures take into account the balancing of the cost of developing the potential product, both from a safety and efficacy standpoint, and its usefulness to the medical community should it be approved. And one single factor normally would not be the determination. We look at the whole product and make a judgment as to whether we are going to go forward.

Senator HAWKINS. Again, to any or all of you, you are aware, of course, that among PMA's 95-odd members, the smaller and middle-sized research companies have typically supported the current version of S. 2748, and even among firms with large research commitments, there is a goodly number that support the bill.

Why do you feel that these companies don't give the same weight to your concerns as you do? That is directed to any or all of you.

Mr. LERNER. If I may, Senator Hawkins, PMA is our official trade association, which we continue to support, of course. But it is not a monolith. Each company in the organization obviously assesses legislative proposals for impact on themselves and what they foresee as the impact on the R&D intensity of our industry over the long term. And each one comes to his own conclusion and takes his own course of action accordingly.

This coalition of research-oriented companies that we represent there this morning has, virtually from the beginning of the negotiations, been raising very serious objections to the content of what was being negotiated, and we decided to take our own stand, albeit late in the game, when we realized that the way the proposal was going was not satisfactory to our mutual interests, arrived at independently, of course.

So I think that is the only way to frame why there is the disagreement among firms who have, overall, the same orientation toward R&D. Each one assesses it for himself.

Mr. STAFFORD. Senator, could I add to that?

Senator HAWKINS. Surely.

Mr. STAFFORD. While we don't accept the—we prefer not to accept the characterization as being dissident companies since we represent approximately 50 percent of all the research and development expenditures on pharmaceuticals in this country. And in addition, on the substance as to where we are, it is interesting that the Government's agencies who have commented on this bill in the past 2 days have agreed, in all or in part, with five of the seven points that we have made. The FDA commented this morning about some concern on the safety and efficacy. While on the one hand they didn't feel their authority was clearly being taken away, they also noted that under the bill they could be moving to take a product off the market because of a concern of safety or efficacy, while at the same time being obligated to approve an ANDA for the same product. Actually, I think the bill quite clearly limits their authority in the area of safety and efficacy, and we would be happy to submit the specifics of that to the committee.

The Commissioner of Patents agreed with two of our major points yesterday on the limitations on the availability for patent term restoration and on the reversal of the *Bolar* case.

The FDA expressed concern about the transition provisions and the imposition on their resources and their inability to process these ANDA's. While our transition comment is slightly different than that, it goes to the same issue.

And lastly, the FDA is concerned about the trade secret issue. So, with the exception to the challenges patent system which we think this bill includes, which we think is a very undesirable feature, we see these two Government agencies as being generally—our positions being generally consistent, at least in part, and in some instances entirely, in five of our seven points. So I am not sure who the dissidents are in terms of whether or not this bill as written is a sound piece of legislation.

The CHAIRMAN. I really appreciate Senator Hawkins taking charge of this committee while I went to vote, because this is an extremely important hearing, and, of course, we wanted to have everybody testify this morning.

Let me ask you all this. Do members of your group of companies feel strongly about the drug export policy reform or is that not very important to you?

Mr. STAFFORD. Our company, American Home Products, supports the views expressed by the PMA this morning.

The CHAIRMAN. You do.

Mr. WILLAMAN. Senator Hatch, Johnson & Johnson also agrees with the views expressed by PMA this morning on the export bill.

The CHAIRMAN. Alright, thank you.

Mr. LERNER. From Hoffman-LaRoche's standpoint, Senator, while I personally haven't seen the measure, from what we understand to be the safeguards which you have seen built in, it would appear to be perfectly acceptable and we would support it, too.

The **Chairman**. It is something you would like to have?

Mr. **Lerner**. Yes.

Mr. **Willaman**. Yes.

The **Chairman**. I think it is a very important bill. And, like I say, I share Bill Haddad's concerns for the welfare of foreign consumers, but on the other hand, that does not relieve us from the duty to lead on in these matters, to see what we can do for our country and for our own employees and for our own companies, and to make sure these practices, procedures, and businesses work safely, and not be afraid to try responsible new ideas.

And I think the same is true about the patent term restoration bill. I hope that as you folks continue to look at it that you can continue to give us all the suggestions you have, and I hope that you will feel better about the final product when it is finally done. And I intend to see that it is finally done.

So we just want to tell you we appreciate having you here today. We appreciate listening to your testimony. I am sorry I haven't heard it all, but I will read what you have said, and I will be on top of it.

Mr. **Willaman**. Thank you very much.

The **Chairman**. Thank you so much. Thanks for being here.

Mr. **Lerner**. Thank you.

Mr. **Stafford**. Thank you, Senator.

The **Chairman**. Perhaps what we should do—we have just been informed of another roll call vote—we will ask Senator Hawkins to go over first, and come back as soon as she can, and I will get our panel started, and apologize to you for the interruptions.

I might mention that the Senate has so much on its agenda these last couple of days before the recess, that every time I get to the floor I'm grabbed by five or six Senators concerning various very important matters, and this may delay me a little. I am also one of the conferees on the bankruptcy bill, and we are on the verge of perhaps solving that problem. I think most of you will be happy to hear that.

Well, on our fourth and final panel, we will hear from several other interested parties. We will hear first from Mr. Dan Saphire of the American Association of Retired Persons, and he will be followed by Ms. Louise Greenfield. I would like to mention here that we have also received written testimony from the AFL-CIO, American Cyanamid, Dr. Phil Lee and other organizations, and without objection, we will be inserting their comments into the record immediately after the statements of those who are present today.

In addition, we will hold the record open through July 12 for the receipt of other written testimony. So we want to hear from those of you who are interested in this.

Ms. Greenfield will be accompanied by Dr. Sidney Wolfe, who is the Director of the Public Citizen Health Research Group, and Mr. William Schultz.

We are happy to welcome all of you before the committee this morning. Mr. Saphire, we will start first with you.

## STATEMENT OF DAN SAPHIRE, AMERICAN ASSOCIATION OF RETIRED PERSONS, ACCOMPANIED BY JACK CHRISTY, LEGISLATIVE REPRESENTATIVE, AMERICAN ASSOCIATION OF RETIRED PERSONS

Mr. SAPHIRE. Thank you very much, Senator Hatch. With me today is Mr. Jack Christy. Mr. Christy and I are with the Federal Legislative Division of the American Association of Retired Persons.

The American Association of Retired Persons appreciates the opportunity to testify on S. 2748, the Drug Price Competition and Patent Term Restoration Act of 1984, and to present its views on these issues of great importance to consumers of prescription drugs.

Resolution of the controversy surrounding approval of generic drugs is long overdue. It is essential that Congress act swiftly to remove barriers which deprive consumers of the benefits of competition in the drug industry and of the ability to control their health care expenditures by purchasing low-priced generic drugs.

S. 2748 represents a compromise. On the one hand, it will enable many generic drugs which until now have been effectively kept off the market by FDA policy, to be made available to consumers. On the other hand, it will extend further the exclusive marketing rights of some brand name prescription products. Because the bill facilitates the availability of low-cost generic drugs to consumers, AARP is able to endorse this legislation.

AARP has actively promoted the availability of generic drugs for many years, and has opposed current FDA policy on approval of post-1962 generics which this bill seeks to reverse.

At present, FDA will approve for marketing a generic version of a pioneer drug first approved prior to October 1962 upon submission of an abbreviated new drug application, or ANDA. This procedure allows approval of a generic drug upon a demonstration that it is identical or sufficiently similar to one which has already been approved as safe and effective. However, FDA does not permit the use of ANDA's for generic versions of drugs first approved after October 1962. For these drugs, a full new drug application must be submitted. This requires that the generic manufacturer reproduce preclinical and clinical studies demonstrating the drug's safety and efficacy. This amounts to duplication of information already received and acknowledged by FDA.

Because of the great expense involved in undertaking these studies, many generic companies are unable to obtain approval of their products. Certainly this is to the detriment of generic firms. However, the real losers from this arbitrary policy are the American consumers.

The patents of many post-1962 pioneer drugs have expired recently or will expire shortly. FDA policy effectively grants them continued protection from competition after their patent expiration date. As a result, consumers must continue to purchase the brand name version of a drug which often is several times more expensive than would be a generic equivalent. This is particularly onerous for elderly Americans, many of whom require multiple medications to ensure their continued health. Since medicare generally does not pay for prescription drugs, the elderly must pay these costs out of pocket. Greater availability of generics would enable many elderly persons, whose out-of-pocket health care costs are continually rising, to save a significant amount of money each year.

S. 2748 would require FDA to accept ANDA's for post-1962 generics. If the requirements of the ANDA are met, it mandates approval of a drug in question within a specified time period. Removal of barriers facing generic drug approval and marketing represent a positive step in the area of drug law. It indicates that Congress has indeed recognized its responsibility to foster competition in the drug market. We would caution, however, that amending the bill to place any obstacles in the way of swift approval of generics would remove cause for AARP support of the bill.

As part of the compromise, S. 2748 enables pioneer drugs to obtain extensions on the lives of their patents. It also guarantees certain classes of drugs a minimum period of exclusive marketability before a generic equivalent may be approved by virtue of an ANDA. AARP is concerned over these provisions as they will delay the availability of low-priced generic equivalents by several years in some cases.

AARP has opposed patent-term extensions in the past, as even after their patents expire, brand name companies have advantages which enable them to maintain large market shares.

Though AARP is of the opinion that extension of brand name drugs' patent terms are unnecessary, we realize that compromise is necessary in order to achieve a broad base of support essential for passage of this legislation. Therefore, AARP does support the bill despite our reservations over the patent extension provisions. However, should the bill be weakened by any expansion of the patent extension provisions, we would be forced to reconsider our support for S. 2748.

As drafted, S. 2748 represents a reasonable compromise. Further compromise in order to satisfy a few special interests would be most unfortunate. The American Association of Retired Persons urges support for and swift approval of the ANDA patent term extension bill in its present form, so that consumers will be able to reap the benefits of low drug prices and increased competition.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Saphire follows:]

# STATEMENT
of the
# AMERICAN ASSOCIATION OF RETIRED PERSONS
on the
# Drug Price Competition
# and
# Patent Term Restoration Act

before the
Senate Labor and Human Resources Committee

June 28, 1984

The American Association of Retired Persons appreciates the opportunity to testify on S.2748, the ANDA - Patent Term Extension bill and to present its views on these issues of great importance to consumers of prescription drugs. Resolution of the controversy surrounding approval of generic drugs is long overdue. It is essential that Congress act swiftly to remove barriers which deprive consumers of the benefits of competition in the drug industry and of the ability to control their health care expenditures by purchasing low-priced generic drugs.

S.2748 represents a compromise. On the one hand it will enable many generic drugs, which until now have been effectively kept off the market by FDA policy, to be made available to consumers. On the other hand it will extend further the exclusive marketing rights of some brand name prescription products. Because the bill facilitates the availability of low-cost generic drugs to consumers, AARP is able to endorse this legislation.

AARP has actively promoted the availability of generic drugs for many years. We have worked for the passage of state generic substitution laws which removed some of the obstacles facing the salability of generic drug products. We have argued against other barriers which detract from the marketability of generics, such as size, shape and color restrictions. We have also opposed current FDA policy on approval of post-1962 generics which this bill seeks to reverse.

At present FDA will approve for marketing a generic version of a pioneer drug first approved prior to October 1962 upon submission of an Abbreviated New Drug Application (ANDA). This procedure allows approval of a generic drug upon a demonstration that it is properly manufactured and adequately labeled, is bioequivalent to and has the same bioavailability of a previously approved drug. This makes sense as it merely permits the marketing of a drug which is identical or sufficiently similar to one which has already been approved as safe and effective.

However, FDA does not permit the use of ANDAs for generic versions of drugs first approved after October 1962. For these drugs a full New Drug Application (NDA) must be submitted. This requires that the generic manufacturer reproduce preclinical and clinical studies demonstrating the drug's safety and efficacy. This amounts to duplication of information already received and acknowledged by FDA. Because of the great expense involved in undertaking these studies, many generic companies are unable to obtain approval of their products. Certainly this is to the detriment of generic firms; however, the real losers from this arbitrary policy are the American consumers.

The patents of many post-1962 pioneer drugs have expired recently or will expire shortly. FDA policy effectively grants them continued protection from competition after their patent expiration date. As a result, consumers must continue to purchase the brand name version of a drug which often is several times more expensive than would be a generic equivalent. This is particularly onerous for elderly Americans, many of whom require multiple medication to insure their continued health. Since Medicare generally does not pay for prescription drugs, the elderly must pay these costs out of pocket. Greater availability of generics would enable many elderly persons, whose out-of-pocket health care costs are continually rising, to save a significant amount of money each year.

Prescription drugs are not purchased as discretionary products. Rather they are purchased when required for medical conditions. To continue to force consumers to pay unwarranted high prices for needed products because government policy insulates brand name manufacturers from competition is plainly wrong.

S.2748 will require FDA to accept ANDAs for post-1962 generics. If the requirements of the ANDA are met, it mandates approval of the drug in question within a specified time period. The removal of barriers facing generic drug approval and marketing represents a positive step in the area of drug law. It indicates that Congress has indeed recognized its responsibility to foster competition in the drug market. We would caution, however, that amending the bill to place any obstacles in the way of swift approval of generics would remove cause for AARP's support for the bill.

As part of the compromise, S.2748 enables pioneer drugs to obtain extensions on the lives of their patents. It also guarantees certain classes of drugs a minimum period of exclusive marketability before a generic equivalent may be approved by virtue of an ANDA. AARP is concerned over these provisions as they will delay the availability of low-priced generic equivalents by several years in some cases.

AARP has opposed patent-term extensions in the past as drug companies have been able to amass large profits during their existing patent lives. Even after their patents expire, brand name companies have advantages which enable them to maintain large market shares. Despite the growing acceptance of generics, there still exists a bias toward brand name products on the part of many physicians who prescribe drugs for their patients. Further, the uncertainty of the law often prohibits generic companies from duplicating functional aspects of the brand name products such as size, shape and color.

Though AARP is of the opinion that extension of brand name drugs' patent terms are unnecessary and undesirable, we realize that compromise is necessary in order to achieve a broad base of support essential for passage of this legislation. Therefore, AARP does support the bill despite our reservations over the patent extension provisions. However, should the bill be weakened by any expansion of the patent extension provisions, we would be forced to reconsider our support for S.2748. As drafted, S.2748 represents a reasonable compromise. Further compromise in order to satisfy a few special interests would be most unfortunate. The American Association of Retired Persons urges support for and swift approval of the ANDA - Patent Term Extension bill in its present form so that consumers will be able to reap the benefits of lower drug prices and increased competition.

The **Chairman**. Thank you.

I have to run to a vote, but let me just ask you one question before I do.

Messrs. Willaman, Lerner, and Stafford, spoke on FDA's power to ensure safety and efficacy under S. 2748, and about administrative burdens and resource shifting at FDA. Do you have any views on these points or on the limitation of patent eligibility, patent litigation, or other patent issues that were raised in that particular matter?

Mr. **Saphire**. Well, I believe the one point that Mr. Novitch brought up this morning was his concern over possibly requiring FDA to approve new compounds, or compounds containing active ingredients that had not been approved for safety and efficacy in the past through an ANDA process. Now, that does raise some concerns. We in no way favor approval of drugs that have not been proved safe and effective.

However, I believe the point raised by the previous panel was that they think FDA should have authority to decline to approve a generic drug through an ANDA in general.

Now, we feel that if the statutory requirements are met which show that the drug is indeed equivalent to a product that has previously been approved and shown to be safe and effective, that there is no problem as far as FDA approving it through an ANDA. So, the way the bill is drafted, with the exception of possible concern over the new compounds, we feel the bill is fine, and we would not favor putting anything into the bill which might give FDA cause to still decline to approve generic equivalents, assuming they do meet all the statutory requirements for ANDA's.

The **Chairman**. All right. Thank you.

I am going to ask Mr. Madsen to continue the hearing until Senator Hawkins gets back, because we want to move ahead with this. It is important that we get all this testimony in today.

Ms. Greenfield, we will turn to you at this time, and I think Senator Hawkins should be back within 5 or 6 minutes. We will look forward to taking your testimony and completing this record.

## STATEMENT OF LOUISE GREENFIELD, STAFF ATTORNEY, PUBLIC CITIZEN'S CONGRESS WATCH, ACCOMPANIED BY SIDNEY WOLFE, PUBLIC CITIZEN HEALTH RESEARCH; WILLIAM SCHULTZ, PUBLIC CITIZEN LITIGATION GROUP; AND JOSEPH ANDERSON, PRESIDENT OF OCAW LOCAL 8-575

Ms. **Greenfield**. Thank you, Mr. Chairman.

My name is Louise Greenfield, and I am a staff attorney with Public Citizen's Congress Watch. Public Citizen is a consumer advocacy and research organization formed by Ralph Nader in 1971.

With me today is William Schultz, from the Public Citizen Litigation Group, who will also have some remarks for you; Dr. Sidney Wolfe, who is the director of Public Citizen's Health Research Group, who will be available to answer questions; plus Joseph Anderson, who is president of OCAW Local 8-575 in New Jersey, who has submitted written testimony and will be available to answer questions on the jobs aspect. They join us in opposing both the general concept of exporting unapproved drugs, and the specific draft that has been moving around.

We would like to thank you for asking us to testify today. We appreciate the atmosphere of cooperation that has been extended to us by the staffs of the chairman and of Senator Kennedy, and we look forward to continuing this relationship.

I would just like to mention some of the other groups who will be submitting or have submitted written comments opposing this measure, for the record. These include the Natural Resources Defense Council, the Labor Institute, the National Women's Health Network, the Interfaith Council on Corporate Responsibility, Consumer's Union, and the International Organization of Consumers Union.

I will summarize my testimony, but I will ask that the written testimony be included in its entirety in the record.

Public Citizen vigorously opposes the creation of a double standard allowing American companies to manufacture and export drugs which have not been found by our Food and Drug Administration to be acceptable for sale to American consumers. We also have grave concerns about the specific provisions of the December 5 draft legislation.

Our most fundamental argument against the export of unapproved drugs is that it would establish a double standard. This violates our basic belief that the health and safety of international consumers is no less important than that of American consumers. Some of the witnesses this morning have observed that the United States is the only major country to impose the same requirements on drug exports as it does on products that are available domestically. But the failure of other countries to responsibly control their drug exports is hardly justification for us to intentionally decide to do the same. We might not be able to control what happens abroad, and there might not be any way to stop American companies from maintaining foreign production bases and exporting possibly hazardous drugs throughout the world from abroad. But we can control what goes on inside our borders.

We should insist that American companies acting inside America remain subject to American laws and standards. The only justifiable exception to a basic rule against exporting unapproved drugs would be to allow exports for diseases which occur only abroad, although the industry is not known for extensive research and development in this area. Since U.S. approval probably would not be sought due to the lack of a U.S. market, this wouldn't be a double standard. We would be pleased to work with the committee in drafting narrow language to allow exports in this limited category.

There are also health and safety considerations. The American manufacture and export of drugs not approved for domestic use would threaten the health and safety of foreign consumers as well as Americans. Such a change in the law would create a new category of drugs available on the world market, drugs which have not been approved by the FDA but which carry the "Made in the U.S.A." label. Foreign consumers could reasonably but mistakenly assume that such drugs have American approval because the difference between American approval for export and American approval for domestic use is a subtlety unlikely to be appreciated abroad.

And since, as FDA testified this morning, there are such doubts over whether there genuinely is a "drug lag," especially for breakthrough drugs, there is little reason to expose international consumers to our unapproved drugs.

The proposal also has a potential impact on the health and safety of Americans. In 1976, a representative of the Ford administration told a House subcommittee, "the control of domestic marketing of unapproved drugs would be undermined because they could still be legally produced domestically."

Also, Americans living or traveling abroad would be subjected to unapproved drugs which bear the "Made in the U.S.A." label.

A third area to keep in mind is the international political considerations. Our reputation as a trading partner and as a leader in foreign relations and health and safety matters is at stake. The export of drugs not considered acceptable for our own people would jeopardize the status of the label "Made in the U.S.A."

As the chairman of the Consumer Products Safety Commission said last month, "In the minds of the people of the world, 'Made in the U.S.A.' stands for quality and safety. This should never be compromised to any degree."

Also, many countries look to our drug regulations as models for their own. Changing the law now would discourage the international trend toward the tightening of controls over exports of drugs and other products, especially those from developed to developing countries. Such actions have been taken or are being considered by the Council of Europe, the European Parliament, the Organization of American States, and the United Nations.

We also have substantial objections to the December 5 draft legislation. The proposal establishes an export approval system which relies on, one, actions by some other country with an "adequate" drug approval system; two, actions by the importing country, if that is different; and three, actions by the FDA. This builds a chain with three weak links.

First, the proposal would require that the drug to be exported has been approved in a country found by the Department of Health and Human Services to have an adequate health authority to approve drugs. The unwillingness of FDA, as mentioned this morning, to get involved in such a determination demolishes the proposal's basic foundation. Even if this aspect is maintained, it would mean that the basic safety and efficacy determinations that would apply to drug companies manufacturing in America and exporting with the "Made in the U.S.A." label would be made by any one of a number of foreign countries on the Health and Human Services list. As a result, foreign consumers would be subjected to the lowest common denominator of protection, and the worst drugs available in each listed country.

Every country can be expected to make a few acts of misjudgment in its drug approval decisions, but in the current proposal, Third-World countries could receive the worst drugs approved in every country on the list.

It is commonly agreed that the United States has the most stringent drug approval process in the world. How do we decide how much worse is still adequate? There are numerous examples proving that other countries' drug approval systems provide less protection than ours—namely, drugs that were approved abroad but not here with tragic results. These range from Thalidomide in the early 1960's to Osmosin, an antiarthritis drug which was removed from nine European markets last year after severe reactions in a number of patients. Can these systems be considered adequate?

The second weak link is in the importing country. The requirement that it be legal to market the drug in the importing country does not guarantee affirmative and informed approval. Many books and studies have documented both the inadequacies of drug regulators in the Third-World countries, and the unethical practices of the international drug industry in such countries. An overview of these problems is being submitted in written testimony by the National Women's Health Network.

It would be unreasonable for us to assume that decisions of foreign authorities will provide their citizens with sufficient protection from unapproved drugs shipped from the United States. But even if we assume that some of the countries not on the FDA list can make reliable decisions about imports, the proposal doesn't give them enough information to make informed decisions. There is no requirement that the officials of these countries be provided with the kind and amount of information which must be given to the FDA to support an application for U.S. approval. And, in fact, there is no provision requiring that the importing country be provided with any information before it certifies that sale of the drug would be lawful.

And even after the export of the drug begins, the proposal limits the information which is to be provided to foreign authorities under the proposed HHS information system to information that is available to the American public. Except where the proposed export is supposedly justified by particular diseases or health conditions in the importing country which do not exist in the United States, if HHS makes no affirmative finding that the export would have a negative impact on either the importing country or the United States within a limited period of time, the export is allowed. Action by inaction is inconsistent with a recent FDA statement of policy. To quote, "Requiring affirmative agency response ensures that an inappropriate export request will not be authorized through an inadvertent failure to act. This is especially important in the export authorization context where once a drug shipment is made, FDA loses control over the regulated article."

The proposal also fails to require companies to provide HHS with adequate information about the drug to be exported. And this is a crucial gap when the drug is claimed to be eligible for export because of special conditions or diseases in the importing country. HHS can hardly be expected to act responsibly if it doesn't have enough information about the drug and the circumstances under which it is to be marketed and used.

Also, the proposal has no provision for public participation in the decision to allow exports, or for public scrutiny of the process or the result. This means that there would be no counterbalance to the claims and information supplied by the industry, and HHS would be denied comments and possibly uniquely available information from American citizens who are familiar with the drug which is to be exported, conditions in the country to which it is to be exported, or both.

I would just like to make a few comments on the industry's forecast about the job impact of this bill. The industry claims that the existing ban on the export of unapproved drugs has forced American drug companies to locate some of their production facilities abroad. Some members of the industry have prepared estimates on the volume of employment and investment that is likely to be generated by the enactment of this proposal.

These estimates have been scrutinzed by the Labor Institute, a New York City-based labor research group, which has reached the conclusion that industry estimates are grossly inaccurate and inflated. Where American Cyanamid has predicted that the proposed change would generate $1.76 billion in annual sales, the Labor Institute anticipates $360 million per year. And where American Cyanamid estimated 50,000 new jobs economywide, the institute expects less than 2,500. The institute is submitting its report to the committee.

One reason that the industry's claims are so far off is that it has failed to take into account the multiple factors which work against any decision to manufacture unapproved or even approved drugs here, as well as the fact that drug production is not labor intensive. Still, some companies might locate some new production facilities in the United States. It should be noted that a significant portion of any such facilities and the jobs which go with them would be located in Puerto Rico, where an increasing amount of current drug industry activity is located, allowing manufacturers to take advantage of no or minimal income taxes under section 936 of the Internal Revenue Code, lower interest rates on industrial revenue bonds, and lower labor costs.

I would now pass you over to William Schultz.

[The prepared statement of Ms. Greenfield follows:]

# TESTIMONY OF

LOUISE S. GREENFIELD and JANET S. HATHAWAY
STAFF ATTORNEYS
PUBLIC CITIZEN'S CONGRESS WATCH
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* * *

# THE EXPORT OF UNAPPROVED DRUGS AND GENERIC DRUG APPROVAL/PATENT TERM EXTENSION

* * *

UNITED STATES SENATE
COMMITTEE ON LABOR AND HUMAN RESOURCES
JUNE 28, 1984

Mr. Chairman and Members of the Committee.

Public Citizen appreciates your invitation to testify today on the proposal to export unapproved drugs and on S. 2748, the Drug Price Competition and Patent Term Restoration Act. Public Citizen, the consumer research and advocacy group founded by Ralph Nader in 1971, is supported by grassroots contributors.

## I. THE EXPORT OF UNAPPROVED DRUGS

### INTRODUCTION

Public Citizen vigorously opposes the creation of a double standard allowing American drug companies to manufacture and export to international consumers drugs which have not been found by our Food and Drug Administration (FDA) to be acceptable for sale to American consumers. (One significant exception will be described below.) We also have grave concerns about the specific provisions of the draft legislation that has been circulating.

Before we elaborate on these positions, we wish to acknowledge the contributions that the drug industry has made to the general health and welfare of the world population; these contributions are significant, and need not be elaborated here. However, experience has demonstrated -- at excessive costs to human life and health -- the attending and often avoidable perils of many drugs, and the difficulties involved in minimizing these perils. Public Citizen is committed to assuring that the manufacturers and regulators of drugs responsibly and adequately anticipate, recognize, and confront the dangers associated with drugs. The export of drugs not approved for domestic use poses tangible and intangible risks both for international consumers and for Americans. Taking these risks is not merited by the supposed benefits of permitting such exports.

## PUBLIC CITIZEN GENERALLY OPPOSES THE EXPORT OF UNAPPROVED DRUGS

### Ethical Considerations

The most fundamental argument against the manufacture and export of unapproved drugs is also the easiest to state: we oppose the establishment of a double standard. Such a practice violates our basic belief that the health and safety of international consumers is no less important than that of American consumers.

The drug industry has noted that the United States is the only country to impose the same requirements on drug exports as it does on products available for domestic use. However, the failure of other countries to responsibly control their drug exports is hardly justification for us to intentionally decide to do the same.

The industry has indicated that drugs not approved for sale in America are and will continue to be supplied to international consumers by our foreign competitors or by American companies with foreign production facilities. Thus, they argue, the proposed change in the Food, Drug, and Cosmetic Act (FDCA) will not cause any lowering of the quality of drugs already available but will only result in keeping jobs, capital and technology in America. We will consider these claims elsewhere in our testimony, but must observe at this point that, even if they are true, such factors do not stand up against the fundamental repugnance of a double standard. The United States has no direct power to control the foreign activities of American companies -- although our ethical choices are certainly taken note of abroad -- but we can control what goes on inside our borders. We must insist that American and other drug companies acting inside America remain subject to American laws and standards.

--The "tropical disease exception"

The only justifiable exception to a basic rule against exporting unapproved drugs would be to allow the American manufacture and export of drugs for diseases which occur only abroad (although the industry is not known for extensive research and development of such products). Because U.S. approval probably would not be sought due to the lack of a U.S. market, this would not constitute a double standard. The same proof of safety and efficacy should be required in determining if a particular drug in this category could be approved for export (although evidence would necessarily be based on testing done outside of the U.S.), and we would seriously question whether any drug which the FDA has affirmatively banned should be approved for export. Public Citizen would be pleased to work with the Committee in drafting specific language to allow exports in this limited category.

## Health and Safety Considerations

The American manufacture and export of drugs not approved for domestic use would threaten the health and safety of foreign consumers as well as Americans. In addition to creating a new world source of drugs which have not been found to meet FDA standards, such a change in the law would create a new category of drugs available on the world market -- drugs which have not been approved by the FDA but which carry the "Made in the USA" label. Foreign consumers could reasonably but mistakenly assume such drugs have American approval; the difference between American approval for export and American approval for domestic use is a subtlety unlikely to be appreciated abroad. This situation, and the availability of the drugs themselves, would create new threats to the health and safety of international consumers.

The proposal also has a potential impact on the health and safety of Americans. In testimony addressing a previous proposal to allow the export of unapproved drugs, a representative of the Ford Administration noted that "control of domestic marketing of such drugs [whose investigations have been terminated on the basis of safety considerations or which have never been approved here because of lack of substantial evidence of efficacy] would be undermined because they could still be legally produced domestically." Drug Safety Amendments of 1976: Hearings before the Subcomm. on Health and the Environment of the House Comm.

on Interstate and Foreign Commerce, 94th Cong., 2d Sess. 274, 279 (1976) (testimony of Theodore Cooper, M.D., Assistant Secretary for Health, HEW). The current proposal's safeguards are not adequate.

Congress should also not ignore the health and safety concerns of Americans living or travelling abroad who would be subjected to unapproved drugs which bear the "Made in the USA" label. In 1978, an American woman opposed an earlier proposal to allow the export of unapproved drugs after her daughter died in Spain from the use of a drug which would not have been prescribed to her in the United States.
Drug Regulation Reform Act of 1978: Hearings before the Subcomm. on Health and the Environment of the House Comm. on Interstate and Foreign Commerce, 95th Cong., 2d Sess. 2839-45 (1978) (statement of Mrs. Alvin F. Zander).

## International Political Considerations

In evaluating the proposal to approve the export of unapproved drugs, Congress must also take into account international political factors. America's reputation as a trading partner and as a leader in foreign relations and health and safety matters is at stake.

The export of drugs not considered acceptable for our own people jeopardizes the status of the label "Made in the USA," which is recognized worldwide as evidence of the highest quality. Physically applied to tangible products, this label also attaches to our actions, including our legislative decisions. Many countries look to our drug laws, decisions and enforcement mechanisms as models for their own systems.

Changing the law now would also discourage the international trend toward the tightening of controls over exports of drugs and other hazardous products, especially those from developed to developing countries. Such actions have been taken or are being considered by the Council of Europe, the European Parliament, the Organization of American States and the United Nations, as well as individual countries and regional groups of countries.

## PUBLIC CITIZEN OPPOSES THE DECEMBER 5, 1983 DRAFT LEGISLATION

The December 5, 1983 proposal establishes an export approval system which relies on actions of some other country with an "adequate" drug approval system, of the importing country, if different, and of the FDA. Unfortunately, this system can be likened to a chain with three links; inadequacies at each stage and gaps between the stages result in no reliable assurance that the international consumer would be sufficiently protected from the potential dangers of unapproved American drugs.

### Approval by a Country with an "Adequate" Drug Approval Authority

The proposal would require that the drug to be exported has been approved in a country found by the U.S. Department of Health and Human Services (HHS) to have an "adequate health authority to approve drugs." Thus, the safety and efficacy determinations that would apply to drug companies manufacturing in America, and exporting with the "Made in the USA" label, would be made by any one of a number of foreign countries on the HHS list.

As a result, foreign consumers would be subjected to the worst drugs available in each listed country: the lowest common denominator of protection. Every country can be expected to make a few mistakes in its drug approval decisions. Generally, citizens in each country are subjected only to mistakes of their own country. But under the current proposal, Third World countries could receive the bad drugs approved in every country on the HHS list.

A threshhold consideration is whether HHS -- or any other governmental body -- should be put in the position of having to name countries with "adequate" drug authorities and simultaneously, by omission, identify others as having inadequate authorities. Congress would not want this politically awkward responsibility, and an executive agency might be less able to resist the direct and indirect pressures which might be applied by the drug industry and other governments.

Additional problems stem from the term "adequate health authority to approve drugs." It is commonly agreed that the United States has the most stringent drug approval process in the world. How do we decide how much less protection is still good enough? Can we do this without condemning our own system as excessive? The current proposal provides no guidelines.

There is a considerable list of examples proving that other countries' drug approval authorities provide less protection than ours does -- examples of drugs approved abroad, but not here, with disasterous results. Dr. Barbara Moulton has previously testified on this in detail. Oversight, the FDA's Process for Approving New Drugs: Hearings before the Subcomm. on Science, Research and Technology of the House Comm. on Science and Technology, 96th Cong., 1st Sess. 398-402 (1979). Among the examples offered by Dr. Moulton were the following:

- Thalidomide - across Europe, thousands of still-births and tragically deformed children, some of them brain damaged.
- Isoproterenol Inhalers - 3,500 deaths in England and Wales, mostly teenagers, from a highly concentrated form of isoproterenol used in inhalers for asthma.
- Aminorex - hundreds of cases of primary pulmonary hypertension, including 26 deaths in Switzerland.
- Stalinon - at least 110 deaths in a small French town as well as other cases elsewhere in France.
- Practolol - many serious side effects (including permanent or near-permanent blindness, and the growth of a strangulating membrane in the bowels leading to death during corrective surgery) reported for this drug, resulting in severe limitations on its use in England, and in its approval being withdrawn in other countries. Ironically, this drug was used as an example of a drug denied to the American public because of the "drug lag."

Dr. Moulton also cited the following as examples of toxic drugs which have been permitted on the market abroad, but not in the United States: Guanoxan; Sordinol; Pronethalol; Triflocin; Cinanserin; MK-665 (Ethynerone plus Mestranol); Chlormadinone

Acetate; and Hexobendine. See also E.C. Lambert, Modern Medical Mistakes (1978). More recently, Osmosin, an arthritis drug which was never approved in the U.S., was removed from 9 European markets after severe reactions by 15 patients. Could these systems be considered "adequate"? We cannot in good conscience allow drug manufacturers to export drugs from America based on decisions made elsewhere, when we ourselves are not willing to rely on the decisions of the same authorities.

Moreover, by requiring HHS to scrutinize only the approval processes of these other countries, the proposal denies international consumers the various post-approval protections which are built into other countries' drug regulatory systems and which sometimes counterbalance these countries' less demanding approval processes. For example, West Germany has a mandatory system of liability insurance, and some countries place severe restrictions on consumer advertising. These requirements would not be imposed upon American companies who, based on these countries' approval decisions, export to other countries.

## Absence of Disapproval by the Importing Country

The second provision in the export proposal is that it not be illegal to market the drug in the importing country (if that country is different from the HHS-listed country which has approved the drug). Clearly, this is a lesser standard than requiring the affirmative and informed approval of the drug by the importing country's regulators.

Many books and studies have documented both the inadequacies of drug regulators in less-developed countries and the unethical practices of the international drug industry operating in such countries. These include Prescriptions for Death and Pills, Profits and Politics, both by Milton Silverman and Philip Lee; Bitter Pills: Medicines and the Third World Poor by Diana Melrose (OXFAM); Pills, Pesticides and Profits: The International Trade in Toxic Substances by Ruth Norris; "Pesticides and Pills: For Export Only" (film) by Robert Richter; Insult or Injury? by Charles Medawar (Social Audit); and Hungry for Profits: U.S. Food and Drug Multinationals in Latin America by Robert Ledogar, as well as Congressional testimony and United Nations studies. An overview of these problems is being submitted to the Committee in written testimony prepared by the National Women's Health Network.

Many developing countries lack the funds, expertise and government structures to protect their citizens from drug-related dangers. In some, the approval and enforcement systems are often short-circuited by bribes and other illegal conduct by some drug companies. The Securities Exchange Commission, when it was more vigorously enforcing the Foreign Corrupt Practices Act, documented many examples of such practices by American drug companies.

These problems are compounded by widespread unethical practices of the drug industry: drugs are promoted for uses which are prohibited in the U.S. and other developed countries; warnings of side effects and hazards are inadequate -- or not provided at all; expensive drugs are pushed when cheaper alternatives, or no drugs at all, would be as or more effective. [redacted]

Obviously, we have very little ability to control actions which take place outside of our own borders. But in deciding what actions are to be permitted inside our country, we cannot ignore clearly documented situations abroad upon which our actions will certainly have an impact. It would be unreasonable for us to assume that decisions of foreign authorities -- or their failure to make decisions -- will provide their citizens with sufficient protection from unapproved drugs shipped from the U.S.

Even if we assume that some or all of the countries not on the HHS list have the ability to make reliable decisions about which drugs they will import, the drug industry proposal does not give them sufficient information to make informed decisions. There is no requirement that the officials of these countries be provided with the kind and amount of information which must be given to the FDA to support an application for U.S. approval. In fact, there is no provision requiring that the importing country be provided with any information before it certifies that sale of the drug would not violate its laws. And even after the export of the drug begins, the proposal limits the information which is to be provided foreign authorities to that which is available to the American public.

## Absence of Disapproval by HHS

The current export proposal would generally disallow the export of drugs for which approval has been affirmatively denied, withdrawn or suspended by HHS on the basis of safety or effectiveness, or which have otherwise been banned. But this would leave a major loophole: it would still allow the export of drugs voluntarily withdrawn from sales or the application process because of serious problems.

The proposal is also objectionable procedurally. Except where the proposed export is supposedly justified by particular diseases or health conditions in the importing country which do not exist in the U.S., the proposal calls on HHS to approve de facto the proposal to export: if specified findings as to the export's health and safety impact on both the importing country and the U.S. are not made within a limited period of time, the export is allowed.

Action by inaction is inconsistent with a recent FDA statement of policy on the export of drugs for investigational use:

> Requiring affirmative agency response ensures that an inappropriate export request will not be authorized through an inadvertent failure to act. This is especially important in the export authorization context where, once

> a drug shipment is made, FDA loses control over the the regulated article.

49 Fed. Reg. 2093 (January 18, 1984). An affirmative response, supported by affirmative findings, is even more important when the substance to be exported will be widely available to international consumers, and without the strict limitations and close supervision which accompany investigational use.

The proposal also fails to require companies that want to export drugs to provide HHS with adequate information about the drug to be exported -- a gap which is most crucial when the drug is claimed to be eligible for export because of special conditions or disease in the importing country. In such instances, the proposal does require an affirmative HHS finding of eligibility -- a difficult determination for HHS to make even if it does have adequate information. But even in other export circumstances, where only the absence of an HHS finding that the proposed export would be contrary to the importing country's public health or safety is required, HHS can hardly be expected to act responsibly in deciding not make such a determination if it does not have sufficient information about the drug and the circumstances under which it is to be marketed and used.

Another conspicuous shortcoming in the export proposal is the absence of any provision for public participation in HHS's decision or for public scrutiny of the process or result. There would therefore be no counterbalance to the claims and information supplied by the industry; HHS would be denied comments -- and perhaps uniquely available information -- from American citizens who are familiar with the drug which is to be exported, conditions in the country to which it is to be exported, or both.

The proposal also fails to provide for any oversight of the industry's export practices or for the revocation of export authority based on related misconduct -- even for making a material misstatement on the notice of intent to export which is to be submitted to the HHS. Monitoring the overseas activities of American firms would certainly be a monumental task, but the failure to use the capabilities of our many overseas representatives to monitor American exports as best possible would be irresponsible.

## THE DRUG INDUSTRY'S RATIONALES FOR PERMITTING THE EXPORT OF UNAPPROVED DRUGS DO NOT WARRANT A CHANGE IN THE CURRENT LAW

Most of the industry's rationales are unfounded, but others may have some level of merit. Nevertheless, any benefits offered by the export proposal are outweighed by the negative considerations previously discussed.

### Increased Protection and Control?

The drug industry claims that this proposal would result in increased protection for international consumers, because some of the drugs to be exported will have an investigational new drug (IND) exemption or a pending application for FDA approval; the FDA would thus be able to monitor drugs American companies sell abroad and to stop the export of a drug when problems arise.

While it is true that the FDA could suspend a company's authority to export a drug, this would be only a marginal protection, because the company could still evade control by manufacturing the same product abroad. The industry's claim also gives rise to the question of whether a company would voluntarily halt manufacture and sale of a problem drug if it was being manufactured abroad. If it would, then no protection would be added by the proposed change. If it would not, there is every reason to believe that international sales would continue from a foreign base.

Moreover, the industry does not acknowledge the lack of protection provided by an IND exemption. INDs are easily obtained; the applicant is not required to demonstrate that the drug is safe and effective. Investigational studies are based on such small groups of subjects that they are likely to pick up common safety problems, but not the rarer but more serious adverse reactions.

The claim that this proposal will give international consumers additional protection ignores the point of our drug laws: to keep unproven drugs off the market, rather than just remove them after a problem arises. Suspending export authorization would not provide sufficient protection, because of the gap between halting activity here and preventing a drug's sale and use abroad.

## The Charge of Paternalism

Some proponents of the export proposal claim that opposition to the export of unapproved drugs is paternalistic, and that we should let other countries decide what is best for their own citizens. As has already been observed, even if we assume that all countries are in a position to make such decisions, the current proposal denies other countries adequate information to make their own informed decisions.

The industry is considerably less inclined to advocate the right of other countries to self-determination when this works against the industry's interests. When Bangladesh promulgated an essential drug list in 1982, removing from the market 1742 dangerous, ineffective, useless or unnecessarily expensive drugs, the industry pushed the State Department to put pressure on the Bangladesh government to rescind its decision. And now, the industry is doing everything in its power to force the rescission of a new Mexican policy limiting drug exports to Mexico and activity inside Mexico by non-Mexican firms.

The paternalism charge is superficially most persuasive with respect to the export of drugs to countries with their own "adequate" drug approval authorities. But Public Citizen does not propose that the United States tell such countries what to do; we merely believe as a matter of policy that the U.S. should not participate in the foreign sales of products which it will not allow to be sold in our own country. We believe that companies that produce drugs in the U.S. should be subject to American standards.

Allowing exports to such countries would also create an enormous loophole: once a drug can be manufactured here and exported to any one country, it would be difficult to prevent re-exports to any other destination.

Different Conditions Abroad

The industry notes that differences between health conditions here and abroad may result in different risk-benefit ratios, possibly leading to different conclusions on the acceptability of a particular product. For reasons already discussed, Public Citizen opposes the creation of a double standard, but we would not object to a narrowly drawn rule allowing some export activity, to deal with diseases which do not occur in this country.

The existence of different conditions abroad -- different diseases, nutrition, sanitation, education, availability and quality of water, availability of health personnel and facilities -- could mean that a drug acceptable for use here will be harmful or useless elsewhere. This fact underscores the perils involved in undertaking the export of unapproved drugs. We must proceed with extreme caution, if at all.

The Industry's Jobs Forecast

The industry claims that the existing ban on the export of unapproved drugs has forced American drug companies to locate some of their production facilities abroad, resulting in a loss of jobs, investment and technology here. Some members of the industry have prepared estimates of the volume of activity that is likely to be generated by the enactment of the industry's proposal. These estimates have been scrutinized by the Labor Institute, a New York City-based labor research group, which has reached the conclusion that industry estimates are grossly inaccurate and inflated. Where American Cyanamid predicted that the proposed change would generate $1.7 billion in annual sales, the Labor Institute anticipates $366 million per year. And where American Cyanamid estimated 50,000 new jobs economy-wide, the Institute expects less than 2500. The Institute is submitting its report to the Committee, including its own estimate of the jobs and investment impact of the proposed change. We will thus limit our remaining testimony on this point to some general observations.

The industry's claim is largely unsubstantiated. Requests for examples of specific products which except for current law would have been manufactured in the U.S. have received minimal response. One company has stated that it would "clearly prefer" to manufacture in the U.S. certain substances now being developed, without indicating why this is "clear."

In both its general claims and its specific predictions, the industry has failed to take into account the multiple factors which work against any decision to manufacture unapproved -- or even approved drugs -- here. These include labor costs, international exchange rates, other countries' domestic production requirements, tariffs, pricing factors, the size of the international market with and without American approval, the uncertainty of American approval, and the uncertainty of the drug's acceptance on the marketplace. The industry estimates also fail to adjust for the fact that drug production is not labor intensive.

Nevertheless, some companies might locate some new production facilities in the U.S. if the export proposal were enacted. It should be noted that a significant proportion of any such facilities -- and the jobs which go with them -- would likely be located in Puerto Rico, where there is virtually no union presence. An increasing amount of current drug industry activity is located there, to allow manufacturers to take advantage of lower income taxes under Section 936 of the Internal Revenue Code, lower interest rates on industrial revenue bonds, and lower labor costs.

## DRUG EXPORTS--AN OVERVIEW

In the past decade, the international drug industry has come under close scrutiny by concerned groups and individuals around the world. Many industry practices have been clearly established as extremely distasteful, and the American companies have not been mere bystanders.

No one country has the authority or the influence to stem the abuses that multinational drug companies have engaged in around the world and especially in developing countries. Only the continuing efforts of the developing countries to surmount the obstacles of poverty, ignorance and corruption, and the support of all industrial nations, can reverse the present critical situation. And until existing abuses which cannot be controlled under current law are stopped, the United States cannot in good conscience make legislative changes which would only compound them.

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## II. GENERIC DRUG APPROVAL AND PATENT TERM EXTENSION--S. 2748

Public Citizen has opposed efforts to extend patents on pharmaceuticals and other products subject to regulatory review since such legislation was first proposed.

The pharmaceutical industry and other holders of patents on regulated products argue that many of their products get less than 17 years of exclusive marketing under patent protection. Public Citizen does not believe that this claim merits legislative action. The patent system does not, and has never, guaranteed a 17 year monopoly marketing period. Instead, a patent only grants a right to the holder to exclude competitors from profiting from the invention for a maximum of 17 years. During this period, the innovator is enabled to research, test, develop and exclusively market the product free from competition.

Because of the years it ordinarily takes to bring a new invention to the market, it would be highly unusual for any patent holder to realize a full 17 years of sales while under patent protection. Products such as the television and the zipper took over 20 years to get from the drawing boards to the market, much longer than the time it takes drug manufacturers to get a new product to the pharmacies.

A non-extendable patent period of 17 years has been the law since 1871. The period was designed to include time for product research and development prior to actual marketing. There is nothing inequitable about receiving less than 17 years of exclusive sales; it is simply less than certain patent holders would like.

Public Citizen presented detailed testimony on the issue of patent term extension before the Senate Judiciary Committee's Subcommittee on Patents, Copyrights and Trademarks on August 2, 1983. We are submitting a copy of that testimony to the Committee for its records. Today we will only highlight our major objections to patent extension.

Patent extension would be extremely costly to consumers of pharmaceuticals--including the federal government--because it would deprive consumers of the choice of inexpensive generic equivalents. Drug research has increased since the early seventies. Patent extension, as proposed by S. 2748, would not discriminate between especially beneficial inventions and patented products of insignificant therapeutic value. As a result, patent extension is not designed to selectively enhance incentives for needed research into treatments for rare diseases. There is no reason to believe that consumers will benefit from patent extension. What is certain is that patent extension would richly reward makers of patented drug and chemical products.

The Pharmaceutical Manufacturers Association claims that it takes an average of nine years to get a drug to the pharmacies. However, the FDA approval process took an average of 25 months in 1981 and 22.4 months in 1982. Of the 116 drugs approved in 1982, only 14 were designated as either important or modest therapeutic *advances*--and these drugs took, on average, *12.6 months* for FDA review. Much of the lag complained of lies solely within the control of the manufacturers. Drug companies which decide for commercial reasons to delay tests or to abandon development of certain drugs, or which submit inadequate documentation of safety or efficacy, should not expect patent extensions. The Food and Drug Administration is not to blame for alleged reductions of sales time under patent.

Even after the patent expires, many brand-name drugs face little or no competition from generics. This occurs because many physicians, in defiance of recently passed substitution laws, write prescriptions to prevent pharmacists from dispensing inexpensive generic drugs. In addition, the Food and Drug Administration has failed to issue regulations concerning expedited approval of generic versions of drugs marketed after 1962. As a result, approval of a generic drug often takes a few years after the patent expiration of the brand-name drug. For many post-1962 drugs, there are no approved generic versions, and none are anticipated without reform of the generic approval process. The effect is an inadvertant grant of additional years of monopoly sales to the original patent holder.

The drug companies argue that without patent term extension, the incentives to do research and development of new pharmaceuticals will decline. Unfortunately, they have not provided evidence to support their claim that incentives for innovation have diminished. The fact is that R&D has increased, even when adjusted for inflation. Another measure of innovation, the number of new molecular entities approved by the Food and Drug Administration, also shows no reduction since the 1960s. The number of drug approvals which are considered important therapeutic gains has remained constant for the past 25 years, at about 3 annually.

There are currently numerous and sufficient incentives for innovation in the pharmaceutical industry. Certainly a powerful reason to invest is the enviable 16.9 percent return on investment, second only to the banking industry, in 1982. The 1981 ERTA 25% R&D tax credit also encourages such activities. Estimates of the 1981 tax credit by the National Science Foundation, Division of Policy Research and Analysis, put the total at $57 million for the chemical industry and $45 million for the drug industry, 3rd and 4th of all industries benefitting from the credit. There are also tax deductions permitted for most R&D and a special 50% tax credit for research on orphan drugs. Thus it is understandable that Dow and DuPont are diversifying into the pharmaceutical industry. This is hardly an area of declining investment incentives.

But even if there were a need to encourage R&D in this industry, patent extension legislation is an inappropriate method. This legislation will not induce innovation which otherwise would not occur. Instead, should this bill pass it would merely increase profits across the boards for all new drugs. The Office of Technology Assessment's 1981 report concludes that there is no evidence that additional revenues derived from patent extension would increase the percentage of R&D activity. Indeed, because patent holders would be invulnerable from competition for a longer time, there is a possibility that innovation would decline because of a lessened need to use ingenuity in order to retain market dominance.

The bill now being considered, S. 2748, combines patent extension with an abbreviated new drug approval process for generic drugs. The rapid approval process for identical but lower-cost generic drugs would be very beneficial to consumers. Modification of the current FDA policy which effectively eliminates competition for drugs approved after 1962 is a high priority, and should be considered and supported independently of any special treatment for pharmaceutical patent holders. In addition to our belief that consumers are better served by separately weighing the merits of expedited generic drug approval, Public Citizen believes that there are several flawed provisions in S. 2748. We urge the Committee to reevaluate these provisions, which would be especially deleterious to consumers who rely on prescription and over-the-counter drug products.

1. S. 2748 grants a ten year monopoly marketing period for all drugs approved by the Food and Drug Administration from January 1, 1982 until the date of enactment of this legislation. This monopoly is granted regardless of

whether these products were patented or whether they faced inordinate delays in approval. Well-informed sources admit that this provision was added at the behest of Pfizer, a company whose highly profitable drug, Feldene, was approved during the designated period. There is no policy justification for this wholesale restriction of competition as a special favor to certain drug manufacturers.

2. Safety and effectiveness tests, including raw data on which the conclusions are based, will not be made available under S. 2748 until the expiration of the patent on the first-approved product. Public Citizen strongly urges that all safety and effectiveness data be available to the public upon request. Restricting access to this data only thwarts attempts by the public to review and evaluate certain FDA decisions. There is no commercial value to this data after the patented drug is approved, because would-be competitors are restricted from marketing an identical product by patents and because the data is unnecessary to those who intend to manufacture a generic version after relevant patents expire.

Public Citizen's Health Research Group has investigated drug safety and effectiveness data obtained after time-consuming lawsuits under the Freedom of

Information Act. Such independent evaluations can reveal dangers neither disclosed by the drug manufacturers nor detected by FDA. In the interests of protecting public health, we request that S. 2748 be modified to make available all safety and effectiveness test data at the time of FDA approval.

3. The scope of patent extension under S. 2748 should be limited to human prescription drug products. Instead, S. 2748 grants a "free ride" to other products whose patent holders desire patent extensions, including over-the-counter drugs, medical devices, food and color additives, animal drugs and veterinary biological products. Manufacturers of these products have produced no evidence to establish the claim that such products are inequitably treated under current patent laws or regulatory procedures. Furthermore, the countervailing benefits of the generic drug approval provisions are likely to substantially enhance competition only for human prescription drug products.

Because of these and other concerns with the patent extension provisions of S. 2748, Public Citizen urges the Committee to separately weigh the provisions of the bill. We endorse abbreviated new drug approval procedures for all bio-equivalent duplicates of an approved drug. We continue to oppose patent extension.

Mr. SHULTZ. I want to, before I discuss the export legislation, say a few words about the patent term ANDA compromise.

Public Citizen has testified probably half a dozen times on the patent term issue, and our views on it are well known. So I am going to principally rely on our prepared testimony. But there are a few points I want to make.

Proponents of the patent extension portion of this bill rely on two justifications. One is that the drug companies have come to Congress and made a case that they are losing patent time. Now, whether you believe that that case is accurate or not, there is no doubt that they have come here and testified and presented data. The second reason that the bill is justified is the ANDA portion of the bill would help generic companies and help consumers obtain low-cost drugs.

We don't believe that the drug companies have made the case that they are losing patent time, but even if they have, the bill goes far beyond the drug industry and the prescription drug industry. It would grant a patent extension to over-the-counter drugs, medical devices, color additives, and food additives. These companies, and companies representing these industries have not come to Congress, they have not made a case, they didn't testify here today. And moreover, there is no countervailing tradeoff with respect to the other industries that there is for drugs. In other words, there is no ANDA procedure for medical devices, color additives or food additives that is included in this bill.

For these reasons Public Citizen strongly urges the committee to consider narrowing the bill down and including only prescription drugs on the theory that only those prescription drug companies have even attempted to make a case that they are losing patent time, and only prescription drugs have the countervailing advantages of the ANDA procedures.

Again, I think it is very significant that these other issues haven't even been discussed today.

Finally, there is the issue of pesticides. Pesticides have not been included in this bill, but that issue is covered in a separate bill, H.R. 5529, that would actually grant a more favorable patent extension to the pesticide companies. And again, our position would be that there should be no extension for the pesticide companies. They haven't made the case, and certainly they should not get a more favorable extension.

There are two modifications in the bill that the FDA requested that I would like to discuss briefly. One concerns the "due diligence" provision, and it is my understanding that the Acting Commissioner of the FDA testified that he didn't understand the public importance of the "due diligence" provision.

Well, very simply, the "due diligence" provision covers a situation where the company lost patent time because it did not diligently pursue testing its drug and gaining approval from the FDA. And in that event, the theory is there is no legitimate reason why that company should gain a patent extension. That is why that provision is in there, and we strongly urge that it be retained.

The second issue concerns the data disclosure. The current bill simply codifies the current FDA regulations, and it allows for data disclosure after the patent expires unless there are extraordinary circumstances. The theory is that there can really be no trade secret value in that data since it was submitted long before and the patent has already been expired. So there is a strong presumption for disclosure, and again, we urge that that language be retained.

The export issue has been a very controversial issue, and last fall it looked as though an export bill would go through Congress without any hearings. There certainly was a move afoot to do that. And we are very appreciative that the bill is being considered in a more open process through hearings such as this one. We have tried to work with the staffs of both Senator Hatch and Senator Kennedy on this issue.

I think that this point highlights the importance of not combining the export bill with the patent term restoration bill. If those bills are combined, then the export bill will not receive the kind of consideration which it ought to receive.

It is my understanding from the staffs of both Senator Kennedy and Senator Hatch that there is no present intention to combine those bills. Also, many of the groups who supported the patent term/ANDA compromise, including the Generic Pharmaceuticals Manufacturers Assocation would not support the two bills. I think it is very important that the export bill be considered separately.

I want to mention one provision of the export bill that we consider to be a real benefit, and it is really a provision that ought to be adopted as a separate bill. It doesn't concern the export of unapproved drugs; instead, it concerns the export of approved drugs, and the problem with the use of drugs approved in this country for unapproved indications has been well documented. A particularly good book on this is the one by Milton Silverman and Philip Lee.

It is my understanding from the committee staff that this bill is intended to require U.S. labeling if the United States has approved a drug already here and if that drug is exported. And that labeling would include the U.S. indications and the U.S. warnings about side effects. And the bill would also have this requirement for all promotional advertising that is done abroad.

Now, my reading of the bill and the report is that it doesn't quite accomplish those purposes, but that can be satisfied very easily by changing the proposed language and changing the committee report. This change would not totally eliminate the abuses abroad. Many of the abuses are caused by detailmen. There are probably ways of dealing with those abuses so small but not without difficulty.

Nevertheless, this provision goes a long way, and we would urge that this provision be adopted as a separate bill. We would enthusiastically support such a bill.

Now, as far as the question of the export of unapproved drugs, the principal argument made by the drug companies is that these drugs are perfectly good. The companies argue that the drugs are going to be approved here, and the only reason they haven't been approved here is because we are slower than everybody else.

Our problem with the bill is the bill is much broader than would be necessary to accomplish that purpose. Even if you narrowed the bill to accomplish this limited purpose, I think we would still oppose it. But the bill would do much less damage than the current draft would do.

If the sole problem were that the United States is slower, then there are two ways that the draft could be changed to limit the bill to cover that problem, and yet still prohibit the export of a lot of drugs that are never going to be approved in this country. Changes that ought to be made are as follows.

First of all, the current bill says that there has to be an effective investigational new drug application. In other words the company must be actively testing the drug in this country. Well, if the company has really done all its tests and the only reason its drug hasn't been approved is because we are a little slower, then the bill ought to require that there be a pending new drug application before the FDA. In that way, the theory is that the company has done its testing, it has made its application, and it simply needs to wait for the approval. In the interim the United States would allow it to manufacture the drug here.

The second point concerns the adequacy of the approval system in the European country, which is sort of the benchmark for allowing sale of the drug to the Third World. If, indeed, we are saying that this drug could get approved here, then we ought to require that it already be approved in a country with an approval system comparable to ours. And in that event, the bill should be amended to require that it already be approved in a country that has an efficacy standard in its law that requires well-controlled studies just as we do. In fact, it ought to require two well-controlled studies, just as we do, and that this proof be made by substantial evidence and on the basis of expert opinion. The current bill does not incorporate this standard; it would be very easy to make this change.

Again, even if these changes were made, I am not saying we would support the bill, but it would greatly limit the export of drugs that could never be approved in this country.

Dr. Wolfe would like to just take a moment to talk about the experience with a single drug, Osmosin, in Europe, which also bears on this issue.

Dr. **Wolfe**. This is mentioned in our testimony, but the reason I want to mention it now in a little more detail—at least 30 to 60 seconds worth—is that certainly when one talks about countries via the language of the bill that might be said to have comparable drug safety and effectiveness laws, one that is mentioned is the United Kingdom.

We believe, as even admitted by the PMA earlier, that the United States has much stronger safety and effectiveness standards than any other country in the world, and that is exactly what is objectionable about the bill. And this is not just an abstraction.

Osmosin is an arthritis drug. It is a modification of a drug that has already been around for a long time. Ironically, it is made by Merck. Mr. Anderson is here representing some workers in New Jersey, from that part of the world.

But this drug got on the market in December of 1982, highly promoted, much like Oraflex was in this country. By September of 1983 it was banned in West Germany, the United Kingdom, New Zealand, The Netherlands, Switzerland, Sweden, and some other countries such as Argentina. It caused severe ulcers in the intestine. There were approximately 40 deaths worldwide attributed to the use of this drug, and hundreds of severe injuries. The drug never got on the market here.

Let's assume that this bill had passed some years ago. What would have happened was that since this company happens to be an American-based company, it is likely that in this country, perhaps in Rahway, NJ, Merck, starting in 1982, would have started producing this drug, shipping it all over the world, killing and injuring people. The drug wasn't good enough, or at least wasn't approved in this country ever, and we would have been responsible for a lot of damage around the world. This would have been perfectly legal under the bill, because the drug wasn't banned in this country. It wasn't banned because it had never been approved.

Now, I think this is not an isolated instance. If you look at the drugs banned around the world, far more drugs are banned in other countries that never were marketed here than the reverse. So I think that the most objectionable thing about this whole bill is that it really, as Ms. Greenfield said, creates a classic and damaging double standard. We will not allow people in this country to take certain drugs because they haven't yet been approved, and yet we will allow them to be shipped all over the world to kill or injure other people.

As Ms. Greenfield mentioned, Mr. Anderson is here. He has submitted a brief 1½-page written statement contesting the whole issue of the jobs, and if there are any questions for him or anyone else, now would be a good time for them.

Senator HAWKINS. Senator Hatch left a note that the union official was not invited to testify, and he does not feel he should answer——

Dr. WOLFE. Well, he is not testifying. He has just handed in a written statement.

Senator HAWKINS [continuing]. And we don't feel he should answer any questions if that were to happen. Senator Hatch would like the record to reflect that this New Jersey local is locked in a protracted labor dispute with Merck which it knows is a leading proponent of drug export reform. Until a few days ago, we were informed that the parent, Oil, Chemical & Atomic Workers Union, supported export reform, and they were scheduled to testify. The union withdrew because of the request of the local, because of the strike. And we have no reason to think that the Chemical Workers are against more jobs for their members, or that they oppose export reform. That was Senator Hatch's statement when he left.

I have one question. The rest will be submitted in writing to all of you, and you may respond in writing.

Mr. Schultz, on balance, you seem to be blaming export proposals for many foreign market conditions which already exist and which will simply continue to exist if it is enacted. Are you not attacking the export proposal for what it cannot accomplish, the cleaning up of foreign markets, rather than the effect it would have?

Mr. SCHULTZ. Well, the whole point of my comments was that if the problem really is that we are slower, there are very good ways that this bill could be changed to limit the damage it would do. But I guess the other answer to your question is that we recognize that there are only so many problems the United States can solve. We can't regulate countries in Europe which allows their companies to export to the Third World. There is nothing we can do about that.

But we can do a lot about it when it is our companies. And I think the point that Ms. Greenfield made, that countries see the U.S. label as really a stamp that the drug is safe and effective, just like our citizens do, ought to be something that we ought to take into account very seriously.

There is one other problem with this bill that I don't think has been highlighted. I call it the least common denominator problem. In assessing the impact of this bill, we must recognize that every country, even our country, has a few bad drugs that get approved. Each country has to sort of live with its own bad drugs. But under this bill, if a drug is approved in any so-called "adequate country" such as Germany, England, or France—there probably will be 10—then it can be exported to the Third World. So what happens is each country gets its own bad drugs, but the Third World gets all the bad drugs from all of those countries.

Senator **Hawkins**. I would like to ask Mr. Saphire if he would provide for the record any educational efforts or information that you have that you use to inform the senior citizen patients about the availability of generic drugs. I have seen some, and I am sure you have a lot.

Mr. **Saphire**. We would be happy to do that.

Senator **Hawkins**. And also, do you find physicians cooperative in informing their elderly patients about generic drug availability when they prescribe? Do you have any information on that that you could supply for the record?

Mr. **Saphire**. OK, certainly.

Senator **Hawkins**. We apologize for the urgency of time. Senator Hatch's bill is on the floor right now, and I am seven minutes late. But this does compile a good record, and as Senator Hatch has said, it will be left open until tomorrow night for the other Senators to have questions if they so desire.

[Additional material supplied for the record follows:]

Statement of Senator Frank R. Lautenberg
Submitted to Committee on Labor and Human Resources as
part of the Hearing Record on Drug Exports
June 28, 1984

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to share some observations with you on the issue of exporting drugs from the United States. As alarming reports on our balance of trade demonstrate, this country is falling behind in the value of goods being exported, relative to the goods which are being imported. The reasons for this negative balance of trade are complex, but the solution can be put more simply -- we must export more.

The pharmaceutical industry is a growing sector of our economy and offers an excellent opportunity for increasing exports. My own state of New Jersey is home to many of the biggest pharmaceutical companies in the country. It is an industry that continues to add to the employment rolls. It is one that is eager to supply overseas markets. One obstacle, however, which sometimes prevents these companies from taking advantage of opportunities to export domestic products abroad stems from our own laws. If a product has not been approved by the Food and Drug Administration for sale in the United States, then the law does not permit the export of this product even to countries in which it has been approved.

The result of this anomalous situation is that U.S. companies must either forego the sale of a product which has not been approved in this country, or manufacture it outside the United States. In either case opportunities for economic growth and job development are lost to our society.

I would like to share some examples with you. One U.S. company significantly expanded a plant it owned in England in order to manufacture several products which had not yet been approved for sale in the U.S., but which had been approved in many other countries. An added irony is that once the product is available for use in this country, it will probably have to be imported from the overseas plant. Even products which are still in the experimental stage cannot be shipped to other countries for use in additional tests and experiments.

In contrast, antibiotics are not covered by the ban on export before approval. This has enabled U.S. firms to develop their manufacturing capacity in this country even though FDA approval was several years off. Companies were able to plan ahead and begin production for overseas markets, adding additional production for domestic comsumption at the proper time.

Every country has the right to determine the best procedures for protecting its citizens and assuring the safety and efficacy of drugs and similar products being sold there. The approval process in each country is different . Some take longer than others. For the same product, the process may be started at different times in different countries. In any event, for a variety of reasons, the green light for sales cannot be coordinated across the globe. This is understandable. The problem is that U.S. domestic law prevents American companies from exporting a pharmaceutical product to a country that has approved it before our country has.

Mr. Chairman, I think that it would be beneficial for the pharmaceutical industry in the U.S. if the law were changed to permit export of products not yet approved by the FDA, under certain limited circumstances. Precautions should be taken to assure that no harmful, unsafe, or useless products are sent to countries without strong safeguards. This refers to the so-called third world dumping problem. Any legislation changing current law would have to assure that dumping does not occur.

But, I think it is important for the Food and Drug Act to be amended to permit legitimate exports. Drugs not approved for sale in the U.S. should be exportable so long as they are approved for sale or meet requirements in foreign markets and do not conflict with the laws and regulations of the importing country. They would also have to be identified as being for export only and not for sale in this country.

I have seen estimates that about $1.4 billion in export sales of existing drugs could occur with a change in the export ban, and perhaps $360 million of new product sales could be developed. This could mean 50,000 new jobs in this country and $400 million in new capital investment. These are benefits that this country cannot afford to lose.

Mr. Chairman, I know that you and the ranking minority member, and others on this committee have been concerned about the drug export problem. I commend you for your work on this issue, and urge you to move forward. I hope that you can bring legislation permitting drug exports, under controlled conditions, to the full Senate this year.

# Drug Price Competition and Patent Term Restoration Act of 1984, S. 2748

Statement submitted by the

National Council of Senior Citizens
925 15th Street, N.W.
Washington, D.C.

to the U.S. Senate Committee on Labor and Human Resources

The National Council of Senior Citizens is a non-profit, non-partisan membership organization which represents over 4.5 million elderly people through 4,500 clubs and councils in all 50 states. NCSC was founded during the struggle for the Federal health insurance program for the aged known as Medicare.

Over the years, we have worked toward the goal of a better life for senior citizens--one with dignity as well as income and health security. Today we must work harder than ever toward our goals. National economic and budgetary problems, and in particular some of the plans Congress has adopted in an attempt to solve these problems, threaten the elderly's health and income security.

Although the elderly's health protection is affected by many elements, Medicare benefit adequacy and the cost of items or services not covered by Medicare or supplemental insurance are two of the most significant factors. Since the question of price and availability of prescription drugs is a combination of both of these factors, the National Council of Senior Citizens considers it a critical issue for older people.

Because older people suffer from a wide range of acute, chronic, and terminal illnesses, twenty-five percent of all drugs prescribed in this country are for people over age 65. Yet the elderly represent only 11 percent of the total population. This is far more than an interesting demographic detail. Consider these additional facts:

- Older people's incomes are not only limited, they are generally low and difficult to stretch over the cost of all basic needs.
- One out of four elderly persons lives at or near poverty.
- Medicare coverage is generally limited only to drugs administered in hospitals; therefore, the elderly pay for most of their drugs out-of-pocket.
- Most older persons take more than one prescription drug because they have multiple chronic conditions.
- Compared to the younger population, the elderly need prescription drugs for longer periods of time and the drugs are usually more costly.
- Seventy to seventy-five percent of drug misuse among the elderly occurs due to underuse because they cannot afford the price of their drugs.

Medicaid drug coverage is optional, limited, and inconsistent, often requiring co-payments. Private Medicare supplemental insurance policies' coverage of drugs is virtually non-existent. Therefore, paying for prescription drugs is a major problem for many older persons. One of the most frequent complaints that our members convey to us about their health expenses is that the cost of prescription drugs is too high.

Some relief of this financial burden is possible when generic equivalents are available. If an older person can purchase a prescription drug, for example Orinase used for diabetes, for the generic price of $4.18 per 100 instead of $14.63, the savings is significant. That savings does not go to the bank. It goes toward buying food, and paying utility bills or for other medical services which quickly devour a monthly Social Security or pension check.

Even though brand-name prices can be as much as 250 percent higher than their generic equivalents, the availability of generic drugs is very limited. As long as the pioneer drug company holds a patent on a drug, no other company can manufacture the drug. Therefore, the consumer's access to a lower cost alternative is blocked and the patent holder continues to have a monopoly and potential for high-profit margin.

The National Council of Senior Citizens has long been opposed to any legislation extending the patent period for prescription drugs. We have pointed out the impact it will have on elderly consumers and questioned the Pharmaceutical Manufacturers Association's contention that higher profits automatically mean more research. On the other hand, we have actively supported Representative Waxman's legislation to accelerate the approval process for bringing generic drugs to market.

We acknowledge that an important compromise on these two issues has been reached which combines the major elements of both legislative proposals. After a careful review of the compromise, embodied in S. 2748, NCSC has determined that it is in the best interest of our members to support it. We do so with some reluctance, and the hope that the actions of drug companies benefiting from a longer patent period will substantiate the manufacturers' claims that their profits will be invested in drug research and development.

Since the legislation would allow FDA approval of generic drug production at the expiration of the pioneer drug manufacturer's patent, lower-cost generic drugs would be marketed several years earlier than under current law. This important change is estimated to save $1 billion for consumers over the next 12 years. Senior citizens would be immediate and direct beneficiaries of this legislation because they make up such a large percentage of these consumers.

The National Council of Senior Citizens urges the Senate to adopt S. 2748. Over the next five years, it would make available in generic form one-half of the nation's ten top-selling drugs. Considering that the inflation rate in prescription drug prices is nine percent and that the elderly pay for nearly all of their drugs out-of-pocket, S. 2748 is a major piece of legislation which would help older people cope with rising health care costs.

**National Council of Senior Citizens**
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June 20, 1984

The Honorable Orrin G. Hatch, Chairman
Committee on Labor and Human
  Resources
United States Senate
135 Russell Senate Office Building
Washington, D.C.  20510

Dear Senator Hatch:

As you know, the National Council of Senior Citizens has long been opposed to any legislation extending the patent period for prescription drugs. We have pointed out the impact it will have on elderly consumers and questioned the Pharmaceutical Manufacturers Association's contention that higher profits automatically mean more research. On the other hand, we have actively supported Representative Waxman's legislation to accelerate the approval process for bringing generic drugs to market. It has been estimated that consumers stand to save $1 billion over the next 12 years should this legislation be enacted and senior citizens make up a large percentage of these consumers.

We now know that a compromise on these two issues has been reached which combines elements of both legislative proposals. After a careful review of the compromise, NCSC has determined that it is in the best interest of our members to support it. We do so with some reluctance, and the hope that drug companies benefiting from a longer patent period will invest their higher profits in drug research.

Senior citizens do stand to benefit greatly from an abbreviated new drug application process. One-half of the top ten selling drugs, many of which are consumed by the elderly, could soon be available in generic form. Examples include: INDERAL for cardiac conditions, DYAZIDE and LASIX for high blood pressure and INDOCIN for arthritis.

Therefore, on behalf of our 4,500 clubs and the 4,000,000 seniors we represent, I urge you to support the ANDA/Patent Term Extension bill as is. Any attempt to amend the legislation will not only jeopardize our support, but also undermine the entire compromise package.

Thank you.

Sincerely,
Jacob Clayman
Jacob Clayman
President

JC/S/lc4

**First Vice President,** Dr. Mary C. Mulvey, Providence, Rhode Island • **Second Vice President,** George J. Kourpias, Washington, D.C.
**Third Vice President,** Einar O. Mohn, Menlo Park, California • **Fourth Vice President,** Dorothy Walker, Detroit, Michigan
**Secretary-Treasurer,** J. Al Rightley, Rochester, Michigan • **General Counsel,** Robert J. Mozer, New York

Written Statement of

American Cyanamid Company
and its Lederle Laboratories Division
Wayne, New Jersey

At Hearings Before the

Committee on Labor and Human Resources
United States Senate
June 28, 1984

on

DRUG EXPORT REFORM

Chairman Hatch and distinguished Members of the Committee on Labor and Human Resources, American Cyanamid Company and its Lederle Laboratories Division are pleased to have the opportunity to submit a written statement in support of legislation lifting the ban on exports of human and animal drugs and biologicals which have been approved overseas but not domestically. The export ban is a major problem facing our company as well as the U.S. pharmaceutical and biotechnology industries in general.

American Cyanamid Company is a diversified, multinational company which produces pharmaceutical, agricultural, chemical and consumer products sold in more than 125 countries and territories. Our total sales exceeded $3.5 billion in 1983. Exports to third party customers accounted for $126 million, or about 4% of total sales. Of those exports, human and veterinary drugs were $21 million, or about 16% of total exports.

We export drugs, medical devices, cosmetics, pesticides, chemicals and other products vital to world health and environmental needs. We have a significant stake in our nation's export policies and in assuring that the products we export are safe and effective. Further, we adhere to the highest standards in the quality and labeling of the products we export. Our company is also highly concerned about laws and governmental policies which restrict trade and adversely affect our national economy.

Mr. Chairman, this background is intended to illustrate that exports from the United States are an important segment of our business which we want to protect. In fact, we have targeted the manufacture and sale of new pharmaceutical products for human and animal use as a major area for expansion. The current ban on exports of new pharmaceutical products approved for use in overseas markets presents a formidable barrier to increasing export sales from the U.S. as well as additional opportunities for U.S. investment and jobs.

The Food and Drug Administration takes the position that the new drug provisions of the Federal Food, Drug & Cosmetic Act and the Public Health Service Act require new animal and human drugs and biologicals to be approved in the U.S. before they can be exported. Also, FDA regulations generally restrict the export of investigational quantities of drugs used in clinical research trials unless the foreign physician agrees to follow U.S. investigational drug procedures. However, many foreign doctors are reluctant to adhere to U.S. procedures because they feel their own are adequate.

None of the other major drug exporting countries - Japan, West Germany, France, Italy or the United Kingdom - imposes a similar ban on exports of pharmaceuticals which have been approved by the importing countries prior to approval by the exporting country. This becomes critical to us, since it takes approximately seven to ten years to develop new products and gain approval in the U.S., yet products are usually approved by one or more foreign health authorities in less time. Cyanamid and other companies must locate production facilities for new products in countries which allow exports to all their approved markets. The U.S. export ban automatically precludes any consideration of locating these facilities in the United States.

A few examples best illustrate the impact of these restrictions on our company. In 1975, we were forced to undertake an $11 million expansion of our pharmaceutical plant in Gosport, England in order to manufacture new drugs for overseas markets which had not yet been approved by the United States. The plant, now in operation, generates $28 million in annual sales and produces additional new drugs from research. Two of the drugs manufactured at Gosport were subsequently approved by the FDA. Although one of the drugs has not yet received approval in the U.S., over 45 other countries have approved it. If and when the product is approved by the FDA, we will be faced with importing it into the United States from Great Britain. The plant could and should have been built in the United States for about $5 million rather than $11 million, and the cost of operating it would have been significantly lower. Unfortunately, the restriction on drug exports precluded that choice.

One of Cyanamid's most important new drug compounds is its anti-cancer agent, NOVANTRONE(R), mitoxantrone. Because of the export ban, it is now being produced by Cyanamid of Great Britain at our Gosport plant rather than at one of our plants in the United States. NOVANTRONE(R), mitoxantrone, was approved in Canada mid-January, 1984 and is expected to be approved in other countries very soon, a year or so before it will be approved in this country. This created an additional difficult position of locating production facilities overseas to produce enough commercial quantities for both our overseas needs and for our future needs in the United States.

In contrast, our PIPRIL(R), piperacillin, an antibiotic not subject to the pre-approval export prohibition, was first registered in Germany on May 7, 1980 but not in the U.S. until December 29, 1981. In our early corporate planning, we decided to locate production in the United States because of the full knowledge that we could utilize our newly constructed plant facility to supply foreign markets even if FDA approval was inordinately delayed. Our U. S. facilities now produce the major portion of our international and domestic requirements for this product. The cost of the production facilities is some $40 million with 170 new jobs created. Had the present export restriction applied to antibiotics, we would have been forced to locate these substantial advantages overseas.

Today, we have several new drugs in, or about to begin, clinical testing for U.S. approval. All of these must first be approved by FDA before they can be exported. This is true regardless of the need for these drugs overseas or the willingness of foreign health authorities, with their own registration procedures, to approve the drugs for their countries. If the clinical testing for these drugs is successful, we expect early approvals by one or more foreign health authorities before approval by FDA. We want the option to manufacture them for export from the United States rather than having to build new facilities overseas.

Many factors affect a company's decisions to locate new drug production facilities in the U.S. vs. overseas. While some production or packaging and labeling facilities must continue to be maintained overseas, the law does not allow us the choice to locate them here until final approval of the drug by FDA. Jobs, investment, technology and favorable balance of trade surpluses are lost to the United States since we and other companies are forced to export the means of production rather than the product itself.

In May 1983, Cyanamid's corporate Development and Planning Division prepared an industry-wide, hypothetical analysis of the impact on exports, capital investment and jobs if the U.S. drug export ban was lifted. We would be happy to submit the complete analysis for the record. We surveyed foreign sales data for new human drugs, excluding antibiotics, which were sponsored by U.S. companies and approved overseas before their approval in the U.S. between late 1981 and the end of 1982. This perspective provides a ballpark estimate of the potential additional export sales for 1981 if the export ban had not been in effect. We found that the surveyed drugs represented a potential for additional 1981 U.S. export sales of $1.385 billion with another potential of $360 million in sales of surveyed drugs which were still not approved in the U. S. at the time of our analysis. Thus, relative to the 1981 U.S. trade surplus of $1.6 billion for all human pharmaceuticals, rescinding the ban on exports could have potentially doubled our nation's favorable trade balance for these products that year.

It is likely that a significant portion of this potential would not have accrued since foreign production and sourcing would continue in many cases. However, even at half the projected levels --- say the $800-$900 million range --- the United States could have increased trade surpluses for drugs in 1981 by 50%. Further, because of insufficient data, our analysis does not include potential additional exports of animal drugs or of human drugs from U.S. subsidiaries of foreign-owned companies. If those data were available, the estimates would be higher.

We next estimated the 1981 impact that these potential additional export sales would have on U.S. capital investment and jobs, based upon standard industrial and governmental indicators. Our figures indicate potential additional capital investment for the U.S. in 1981 to be $400 million and new jobs potential to be in the 40,000 to 50,000 range. The job estimates are based on the export sales multipliers provided to us by the Department of Commerce and Office of the U. S. Trade Representative. They include not only workers in the plant, but those of independent contractors, building and construction trades, and all others in the employment chain due to increased domestic manufacturing, distribution and trade capability.

Another adverse consequence of the current export restriction is its impact on the flow of technology overseas. While it is generally desirable to encourage the free flow of scientific knowledge and technology throughout the world with appropriate safeguards for national security and intellectual property rights, there are sometimes situations when this is not desirable. For example, pharmaceutical manufacturers and biotechnology firms are beginning to make plans for building research and manufacturing facilities to produce new drugs and biologicals by recombinant DNA techniques. Because manufacturers can anticipate that the products of that new technology will be approved for marketing in other countries before they are approved in the United States, they have strong incentives to locate their principal facilities abroad. If the research and manufacturing base shifts to other countries, our nation's early lead in this field and important technical expertise will flow with it. For the present time, it would be desirable that companies in this field have the flexibility to export the products themselves rather than the technology and expert personnel required to produce them.

We would next like to address misconceptions about the current export ban and the safeguards which currently exist as well as those provided in the draft legislation being considered by this Committee for the protection of lesser developed countries from the distribution of unsafe or ineffective drugs.

The rationale of those who want to retain the current export ban is based on the premise that, unless so restricted, multinational pharmaceutical companies will "dump" dangerous drugs overseas, particularly on unsuspecting third world countries which lack the sophistication to evaluate new drug compounds. There are a number of serious flaws in that assumption.

First, the major marketing thrust for new drugs of U. S. multinational pharmaceutical companies is in the developed countries. Lesser developed countries are of comparatively limited commercial interest. According to World Review 1981: the Pharmaceutical Market (published by IMS International, Inc.), of the top 40 pharmaceutical markets in the free world, 80% are in the following 20 countries, which are generally categorized as "developed":

> U.S.A., Japan, Germany, France, Italy, U.K., Spain, Argentina, Brazil, Canada, Mexico, Belgium, Australia, Switzerland, Netherlands, Sweden, South Africa, Greece, Austria and Denmark.

These countries do not depend on the U. S. FDA to serve as a worldwide pharmaceutical regulator or to set global pharmaceutical standards. Each has its own board of health which sets procedures for evaluating new drug compounds. Many require clinical or preclinical work to be done locally and do not accept the results of other countries' investigations.

Second, developing countries that lack a board of health skilled in drug evaluation adopt the decisions of those countries which do have sophisticated regulatory agencies. As a condition for importing a drug, these countries require a Free Sale Certificate which verifies the fact that the product is approved for sale in the exporting country. It is usually authenticated by the consulate of the country requiring it, after it has been signed by the health officer in the country where the pharmaceutical is manufactured. The Free Sales Certificate means, in effect, that developed countries help to regulate the sale of pharmaceuticals to lesser developed countries.

The draft legislation before this Committee also contains many additional safeguards which other drug-producing countries do not impose on drug exports to less developed countries.

It requires that the drug to be exported must be approved in a country which has a sophisticated drug approval system, as designated by the FDA.

It requires the drug labeling to be the same as that of one of the countries designated by the FDA, except for translation and legally required changes not relating to the drug's safety or efficacy.

The drug must at least be the subject of an Investigational New Drug Application (INDA) filed with the FDA. This is intended to assure that FDA will have sufficient information to determine whether its sale in a less developed country will be contrary to its health and safety and block approval for export in those instances.

Further, the drug could not be exported if its approval was denied, withdrawn or suspended on the basis of safety or efficacy, except where the FDA determines its export is warranted because of particular diseases or health conditions in importing countries.

In addition to the international and FDA drug information dissemination programs which currently exist, FDA would be required to inform foreign governments of significant U. S. drug regulatory decisions, provide them with the U. S.-approved labeling for new drugs, and respond promptly to their requests for information on drugs exported from the U. S.

Finally, violations of the draft legislation would be subject to all the sanctions under the Federal Food, Drug and Cosmetic Act, including criminal sanctions.

In short, under the draft legislation, less developed countries would be afforded a much greater measure of information about the drugs they import. Drug exports originating from the United States would carry much greater safeguards than exports originating from other countries. But the primary beneficiary will be the United States -- in terms of investment, competitiveness, technology jobs, and favorable trade balances.

Mr. Chairman and members of the Committee, this legislation is long overdue. We would deeply appreciate your holding these hearings and urge you to take any actions you can take to expedite the enactment of drug export legislation this year.

# Testimony Submitted to the Senate Labor and Human Resources Committee for Hearings on Modification of the Food, Drug and Cosmetic Act of 1938 et seq. to Permit Export of Drugs Not Approved by the FDA or USDA.

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Date: June 25, 1984

## Employment and Capital Spending Impact Analysis of Proposed Changes to the FD&C to Permit Export of Drugs Not Approved by the FDA or USDA

Economic impacts of the proposed amendment to the Food, Drug and Cosmetic Act, which would permit pharmaceutical firms to manufacture drugs in the United States for export that are currently not approved by the FDA, have been prepared by some pharmaceutical manufacturers. I am attaching one such analysis to this study as an appendix and will refer to it by name; The American Cyanamid Study.

This analysis asserts that the new jobs potential of the proposed amendment would increase employment by 50,000. This is based on increased exports of 1.76 billion and increased incremental capital investment of $400 million. A basic assumption in this scenario is that 30,000 jobs per billion exports will be created. All of these assumptions are rather rosy, and as this research will illustrate, are grossly overstated.

The assumption that 30,000 jobs will be created per $1 billion exports is based on the average figure supplied by the US Office of Trade Representative, Bill Brock. While the Trade Office figure may be a useful rule of thumb for estimating job impacts, it is not appropriate for the kind of marginal economic impact analysis related to this legislation. Currently pharmaceutical firms research and develop drugs in the U.S. which they hope to get approval from the FDA in order to market in the U.S. At the point the drug enters the regulatory process, major drug companies have already spent a number of years developing and testing the pharmacological properties of the substance. Further development has gone into researching potential markets and production processes for the manufacture of the product. Since the proposed legislation would permit drug companies to manufacture products in the U.S for export purposes, we are primarily looking at impacts in the following job areas: Production and Maintenance, Production Supervision and Engineering, and direct supporting Clerical and Administrative. Marketing, Research and Development, and Corporate Administration wouldn't marginally increase as a result of a choice in manufacturing location since their work will be able to continue whether the plant is located in the U.S. or in another location, such as Europe.

The pharmaceutical industry ranks high among all industries in value added per employee and has one of the highest sales per worker of any U.S. industry. One reason is that the production processes are highly automated and not as labor intensive compared with the majority of goods producing industries. A survey of 3 top ethical drug firms was conducted for this study. It indicated average sales per (blue collar) production worker of $400,000. This number was confirmed by a drug industry analyst at the brokerage firm Dean Witter.

A detailed job impact study of the industry revealed that only 3,089 direct pharmaceutical industry jobs per $1 billion exports were created and another 8,340 jobs were created in other industries as a result of the increase in manufacturing and employee consumption. Hence, 11,429 total jobs will be created as a result of the increase in drug industry exports of $1 billion. This compares with the drug industry's figure of 30,000. The methodology is outlined on the next page.

A study by American Cyanamid postulates the potential increase of exports over the next 5 years to be $1.76 billion. This would assume an 80% increase in exports over the current

## Pharmaceutical Industry: Methodology for Job Impact Analysis for Export Production of an Already Developed Product

Raw Data Source: Merck, SmithKline Beckman, Squibb, Dean Witter

Dollars: (1983 Constant)

Assumptions: Production Worker to Production Supervisor 9.0:1
Production Worker + Supervisor to Clerical 8.9:1
Sales per Production Worker Approximately $400,000

| Type of Worker | Sales/Worker | Jobs per Billion Sales |
|---|---|---|
| Blue Collar/Production | $ 400,000 | 2500 |
| Supervisory/Production | 3,600,000 | 277 |
| Clerical/Administrative | 3,205,000 | 312 |

Direct Pharmaceutical Industry Jobs per
1.0 Billion Sales--Export Production Only ........... 3089

Multiplier for Industrial Inputs and Employee Consumption Expenditures Through the Economy: 2.7

Assumption: 2.7 multiplier is derived by dividing US employment for service related and all other industries by goods producing industries.

Employment for Service Related Industries / Employment for Gooods Producing Industries

| Included are: | Employment for Service Related Industries | Employment for Gooods Producing Industries |
|---|---|---|
| | Wholesale and Retail Trade | |
| | Government | Mining |
| | Services | Manufacturing |
| | Transportation | Construction |
| | Public Utilities | |
| | Finance, Insurance and Real Estate | |

65,868,000/23,992,000=2.7

Direct Pharmaceutical Industry Jobs ................ 3089
Multiplier ........................................ x 2.7
Additional Jobs Created per Billion Dollars Exports 8340

Direct Industry Jobs .............................. 3089
Additional Jobs Created per Billion Dollars Exports + 8340
Economy Wide Marginal Increase in Employment per
Billion Dollars Exports ........................... 11,429

level of $2.2 billion per year. The Cyanamid study (see appendix, page 2 of study) presumes 4 sources of new potential exports.

They are:

| | | |
|---|---|---|
| 1. | NCE's approved in the U.S. in late 1981 or 1982 which had identifiable international sales of .............................. | $642 million |
| 2. | NCE's launched internationally by U.S. companies between 1978 and 1981, but not available in the U.S. Estimated sales .......... | $443 million |
| 3. | NCE's not available in the U.S., but launched internationally by U.S. companies prior to 1978 ...... | $300 million |
| | This leaves a subtotal of ............ Or more roundly stated $1.4 billion | $1,385 million |
| 4. | New NCE's launched for the first time, and in international markets first. Using statistics derived from SCRIP (see page 3 of Cyanamid Study) an estimate of future potential sales using a 40% FDA approval rate ........ | $360 million |
| | This creates a total potential export sales of ...................... | $1,760 million |

The subtotal figure of $1.4 billion is based on a key assumption, that drugs now launched internationally and manufactured overseas will be brought back to the United States for manufacture and/or finishing. This means that facilities now operating will be shut down to bring jobs back to the U.S. If we are to believe what the drug industry tells us about the consequences of setting up facilities overseas, which is summarized succinctly by Merrell Dow in a memorandum on the effects of FDA export restrictions, we would learn that it is highly unlikely that the production will be brought back to the U.S.(See appendix).The following quote is extracted.

> "Basic Concepts"
>
> 2. Once a foreign active ingredient's plant is geared up to manufacture a particular given active ingredient, it is most unlikely that the production of that active ingedient will be brought back to the United States of America

even after the U.S. NDA is approved.

If it is true that it is uneconomic to return drug production to the U.S. solely for export production, since investment has already been made in another country, we can reasonable dismiss 79.5% of the dollar export potential made by the Cyanamid study, which presumed that a significant portion of this overseas production would return to the United States.

One area of the Cyanamid study does make a fair amount of sense, specifically #4 on the prior page, where $360 million dollars in sales to overseas markets for drugs yet to be launched could presumably be made in U.S. production facilities if the ban were lifted. The assumptions behind these sales are as follows: The estimated U.S. company NCE's launched overseas first are 4 per year. While new launches will not immediately contribute a significant volume of sales, the growth potential does exist as the market acceptance grows for the new products. International sales in the first year equal $10 million/NCE, increasing by $10 million/year to an average $50million in the fifth year. This yields cumulative sales of $600 million/year in the fifth year. If 40% of these drugs are approved in the U.S. in this period, lost exports (since the export ban only applies to drugs not approved in the U.S.) would equal $240 million in the 5th year, netting a total of $360 million($600 minus $240) new exports. The following matrix illustrates the "cash flow" generated by the new exports resulting from lifting the ban(see next page).

Of course this $360 million/year exports assumes that the U.S. dollar is not at currently strong levels compared with other currencies--otherwise it would be unprofitable for many firms to manufacture in the United States--1982 sales

CASH FLOW FROM LIFTING EXPORT BAN

| | | DOLLARS IN MILLIONS | | | | |
|---|---|---|---|---|---|---|
| NEW NCE's 4/yr | | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| INTRODUCTION YR | 1 | $M 40 - | $M 80 - | $M 120 - | $M 160 - | $M 200 - |
| 10 MILLION SALES | 2 | — | 40 - | 80 - | 120 - | 160 - |
| X 4 NCE'S = 40M | 3 | — | — | 40 - | 80 - | 120 - |
| 5TH YR, 50 MILLION | 4 | — | — | — | 40 - | 80 - |
| SALES X 4 NCE = 200 | 5 | — | — | — | — | 40 - |
| SUBTOTAL | | 40 - | 120 - | 240 | 400 - | 600 - |
| 40% F.D.A. APPROVAL RATE | | <16 -> | <48> | <96> | <160> | <240> |
| NEW EXPORTS (MILLIONS DOLLARS) | | 24 - | 72 - | 144 - | 240 - | 360 - |

were dramatically reduced by declines in the value of foreign currencies for Merck & Co. Their annual report listed sales reductions as a result of the declining foreign currency of $239.9 million for 1982 and $183.3 million for 1981. With losses of this magnitude, overseas production would be a serious consideration for most pharmaceutical firms who wished to avoid these high costs of domestic manufacture. Lifting the ban therefore would not by itself guarantee domestic production for any product. The cause of high interest rates, a subject of little debate--in the face of huge deficits--therefore becomes closely linked to planned domestic production; however, for the sake of this discussion we will not adjust the planned exports of $360 million, but rather leave currency exchange as a contingent factor.

Aside from exchange rates other important factors contribute to a decision to build a manufacturing plant in a particular location--in particular tax rates and finance incentives. Puerto Rico, as a U.S. protectorate, is used by many pharmaceutical firms for the production of drugs for export. From 1971-1981 Puerto Rican employment in the pharmaceutical industry has grown 300% from 2940 jobs to 11,746 jobs. U.S. domestic employment in the same time period has grown 14.8% from 136,766 to 157,000. Puerto Rican pharmaceutical industry jobs are primarily production oriented, as opposed to research and development oriented. The increase in jobs becomes meaningful when 30.3% of the increase in combined U.S. employment is taking place in Puerto Rico and 39.7% of the increase in production workers is taking place in Puerto Rico. Pharmaceutical firms enjoy a tax holiday in Puerto Rico under Section 936 Tax Incentives. This tax free haven has permitted SmithKline Beckman to avoid paying U.S income taxes on $599 million while they enjoy a combined effective Puerto Rican witholding and income tax rates of between 5% and 11%. Puerto Rico also provides financing for increased investment. One industrial revenue bond for Merck & Co. was offered in December of 1983 for 7.375% when U.S. corporate bonds were averaging 12.6%. It is difficult to ignore these incentives, coupled with lower, non-unionized wage rates when assessing the jobs impact on the mainland United States. What ever the potential sales and capital spending resulting from a lifting of the ban on exports, it would be reasonable to use the trend of growth in the Puerto Rican industry (pharmaceutical) when determining the location of new facilities. In this case 39.7% of new capital spending will most likely wind up in Puerto Rico, while 60.3% will be located in the mainland United States. This discussion ignores the tax consequences to the U.S. Treasury at a time of record deficits from the §936 incentives as well as the social consequences to displaced production workers in the mainland U.S. who will not see the revenues in the form of new jobs programs and social spending.

As new investments in the most advanced technology are made in Puerto Rico, workers in the U.S are put at a competitive disadvantage since companies will continue to maximize use of their most productive facilities first--in a tax free environment--creating an increase in concern over job security in the mainland. If the idea of removing restrictions on the domestic production of pharmaceuticals was to retain potential investment instead of losing it overseas, the economic incentives provided by Puerto Rico (financing, taxes, wages, etc.) effectively create a magnet to lure U.S. pharmaceutical industry capital, hence jobs, away from the U.S. again. Attached is a list of firms currently operating in Puerto Rico, as well as a list of facilities and employment levels.

Listed below are some popular drugs produced in Puerto Rico. The ranking is by the number of Rx's written in the U.S. for these products.

Drug Manufacturing in Puerto Rico
—A Few Commonly Prescribed Medicines

| Drug | Rank 1983 | Approx. World Sales |
|---|---|---|
| Dyazide (SKF) | 1 | $240 million |
| Valium (Roche) | 4 | $600 million ('79) |
| Tagamet (SKF) | 6 | $850 million |
| Aldomet (Merck) | 12 | $450 million ('82) |
| Diabinese (Pfizer) | 22 | |
| Timoptic (Merck) | 40 | $103 million ('81) |
| Minipress (Pfizer) | 42 | |
| Sinequan (Pfizer) | 65 | |
| Lomotil (Searle) | 86 | |
| Aldactazide (Searle) | 93 | |
| Moduretic (Merck) | 105 | $130 million ('82) |
| Tenuate (Merrell Dow) | 173 | |

Major recent entries have made their way to Puerto Rico, Merck & Co. now manufactures the bulk chemicals for 2 drugs recently approved for the U.S. market with sales in excess of $100 million each in their Barceloneta facility. According to a spokesperson for Pfizer, 6 major drugs are currently being produced in Puerto Rico; however, any drug is a candidate for Puerto Rico.

The sales to operating assets ratio for tne industry is approximately 2.2:1. However since we are interested in an incremental capital investment, doubling that figure would give a ratio of 4.4:1--this would be a generous allowance considering the average ratio of operating assets (PP&E) to depreciation expense is between 10:1 and 15:1 in the firms surveyed.

Job Impacts of Lifting Export Ban: Fifth Year Assessment

| | Labor Institute | Industry |
|---|---|---|
| Increase in Export Sales | $360 million | $1.76 billion |
| Mainland U.S.% | x .603 | |
| Mainland Exports | $217.08 million | $1.76 billion |
| Direct Industry Jobs @ 3089 per $1.0 billion | 671 | |
| Additional jobs in other industries @ 2.7 multiplier | + 1,811 | |
| Economy wide jobs--U.S. | 2482 | 50,000 |
| Mainland Capital Spending @217.08/ 4.4 multiplier | $49.34 million | $400 million |
| Puerto Rico Capital Spending @ 360 x .397=142.92 million/ 4.4 Multiplier | $32.48 million | |
| Total Capital Spending | $81.82 million | $400 million |
| Increased% of exports | 10% | 80% |
| Increased average number of employees for top 35 firms in drug industry U.S.A. Mainland | 19 | |
| Increase number of blue collar/production workers U.S.A. Mainland @ 2500 per $1.0 billion | 543 | |

In order for the industry to reach its target of 50,000 jobs, exports would have to increase 199% to $4.374 billion over the next 5 years. Intentionally left out of this analysis is the job increases from new capital spending, since some equipment would be exported overseas and the lack of knowledge about the kinds of capital spending--ie. renovation and additions versus new plants. Further the Cyanamid study did not include a jobs multiplier for capital spending.

The cry of many pharmaceutical manufacturers who support this legislation is the spectre of unwanted technology transfer. They claim that if new products are produced overseas first, then the technology to produce their products will be lost to foreign competitors or licensees. If the current legislation is responsible for an undesireable flow of American research and manufacturing technology, why do many firms currently produce sophisticated products in overseas plants which are already being produced in the United States? For example, SmithKline has recently designated $10 million for a plant to produce Tagamet in Brazil, and Merck & Co. has recently licensed its highly sophisticated technology for Heptavax-B, a hepatitis vaccine, to Singapore Biotech. The CEO of Merck was quoted as saying, "...we are pleased to share our advanced technology on hepatitis B with them."

There is no question that technology transfer can remove American worker's jobs; the question is whether this legislation will address this problem.

Lifting the ban doesn't seem to guarantee a market for a drug overseas. Merck recently removed Osmosin from 9 European countries after severe reactions by 15 patients.

The FDA had not approved the drug. If the drug was manufactured in the U.S. for export only, these jobs based on the export of this particular product would have evaporated. Failure of the FDA to approve drugs doesn't necessarily guarantee that the frequently less stringent regulations in other countries will provide an assurance of a thoroughly tested product--hence instability in labor markets.

Since this legislation doesn't appear to be a jobs bill, what then is it? One Wall Street analyst thought that the major impact of the lifting of the ban would be to provide U.S. drug firms with bargaining leverage in countries where domestic content and price levels are specified by the government. If a drug is yet to be approved in the U.S., then a firm may have less leverage if the drug must be produced in the foreign country; if it could also be produced in the U.S., the firm would have an option, or at least more power to control price.

One consideration in closing--the U.S. has the best regulatory process in the world, its products are generally considered superb. Any weakening of the stringent regulations which would allow drugs to be exported that aren't fully tested could boomerang on the United States--not just the companies concerned, but their employees as well. Since most every person wants to take pride in their work and the product they produce, why deny American workers that opportunity with a weakened Food Drug and Cosmetic Act?

## Sources

Pharmacy Times
May 1984

American Druggist
May 1984, February 1984

1983 Statistical Abstract of the United States

Annual Reports for: Merck & Co., SmithKline Beckman, Pfizer,Squibb,
GD Searle, Schering Plough Corp.

Puerto Rico and US Section 936 Tax Incentives
97th Congress: Committee on Banking, Finance and Urban Affairs
House of Representatives

PMA Annual Report

New Jersey Business
May, 1983

Productivity Measures for Selected Industries
December 1983
Bureau of Labor Statistics

Advertising Age
April 2, 1979

First Boston Research

### Table 8

### MANUFACTURE OF DRUGS IN PUERTO RICO
Number of Establishments, Total and Production Employment
As of October 1959 to 1981

| Years | Number of Establishments | Total Employment | Production Workers |
|---|---|---|---|
| 1959 | 27 | 551 | 302 |
| 1960 | 24 | 477 | 311 |
| 1961 | 27 | 484 | 304 |
| 1962 | 28 | 644 | 435 |
| 1963 | 29 | 699 | 462 |
| 1964 | 25 | 655 | 440 |
| 1965 | 28 | 779 | 530 |
| 1966 | 30 | 1,155 | 842 |
| 1967 | 33 | 1,384 | 1,034 |
| 1968 | 34 | 1,439 | 1,073 |
| 1969 | 32 | 1,848 | 1,419 |
| 1970 | 39 | 1,686 | 1,151 |
| 1971 | 44 | 2,940 | 2,213 |
| 1972 | 47 | 3,535 | 2,433 |
| 1973 | 54 | 4,965 | 3,543 |
| 1974 | 58 | 5,449 | 3,846 |
| 1975 | 60 | 5,964 | 4,146 |
| 1976 | 69 | 7,315 | 5,269 |
| 1977 | 72 | 8,369 | 5,813 |
| 1978 | 78 | 9,774 | 6,836 |
| 1979 | 76 | 10,224 | 7,060 |
| 1980 | 77 | 10,978 | 7,533 |
| 1981 | 78 | 11,746 | 7,924 |

Source: Census of Manufactures
Puerto Rico Department of Labor § Human Resources

### MANUFACTURING IN PUERTO RICO
### REAL COMPENSATION OF EMPLOYEES
### FISCAL YEARS 1950 TO 1982

| Fiscal Years | Total Employee Compensation (Million Dollars) | Real Compensation 1972 = 100 (Million Dollars) | Manufacturing Employment | Real Compensation per Employee ($) |
|---|---|---|---|---|
| 1950 | 61.6 | 109.4 | 55,000 | 1,989 |
| 1960 | 180.4 | 247.5 | 81,000 | 3,056 |
| 1970 | 607.9 | 653.7 | 132,000 | 4,952 |
| 1971 | 658.2 | 680.7 | 132,000 | 5,157 |
| 1972 | 751.3 | 751.3 | 141,000 | 5,328 |
| 1973 | 841.8 | 812.5 | 142,000 | 5,722 |
| 1974 | 925.8 | 802.9 | 147,000 | 5,462 |
| 1975 | 964.8 | 734.2 | 137,000 | 5,359 |
| 1976 | 1,028.1 | 727.6 | 133,000 | 5,471 |
| 1977 | 1,149.4 | 785.6 | 144,000 | 5,456 |
| 1978 | 1,323.4 | 863.8 | 156,000 | 5,537 |
| 1979 | 1,496.7 | 932.5 | 160,000 | 5,828 |
| 1980 | 1,657.5 | 919.3 | 157,000 | 5,855 |
| 1981 | 1,787.3 | 897.2 | 154,500 | 5,807 |
| 1982 | 1,853.4 | 882.6 | 144,600 | 6,014 |

# TABLE I
# US PHARMACEUTICAL COMPANIES
# N PUERTO RICO

[redacted]

| US Parent | # P.R. Pharm. Operations | # employees 1981. | Year of Entry |
|---|---|---|---|
| Abbott Laboratories | 3 | 560 | 1968 |
| Allergan Pharms. Inc. | 2 | 148 | 1971 |
| American Cyanamid Co. | 3 | 345 | 1974 |
| American Dietaids Co., Inc. | 2 | | 1961 |
| American Home Products Corp. | 1 | | 1973 |
| American Hospital Supply Corp. | 1 | | 1975 |
| Baxter Travenol Laboratories, Inc. | 8 | | 1968 |
| Bio-Dynamics, Inc. | 1 | 23 | 1972 |
| Block Drug | 2 | | 1974 |
| Bristol-Myers Co. | 4 | | 1971 |
| Carter-Wallace, Inc. | 1 | | 1972 |
| Chase Chemical Co. | 1 | | 1960 |
| Cooper Labs, Inc. | 2 | | 1972 |
| DuPont (E.I.) De Nemours | 2 | | 1968 |
| Forest Labs. Inc. | 2 | | 1966 |
| ICN Pharms. Inc. | 1 | | 1973 |
| Johnson & Johnson | 3 | | 1973 |
| Eli Lilly & Co. | 7 | 1019 | 1966 |
| Merck & Co. Inc. | 1 | 318 | 1972 |
| Morton-Norwich Products, Inc. | 1 | | 1976 |
| Pfizer Inc. | 2 | 387 | 1973 |
| Revlon, Inc. | 2 | | 1962 |
| Richardson-Merrell Inc. | 3 | | 1974 |
| A. H. Robins Co. Inc. | 1 | | 1974 |
| Rohm & Haas Co. | 1 | | 1973 |
| Schering-Plough Corp. | 2 | 616 | 1972 |
| G. D. Searle & Co. | 3 | 414 | 1969 |
| SmithKline Corp. | 3 | 1292 | 1970 |
| Squibb Corp. | 4 | 494 | 1970 |
| Sterling Drug, Inc. | 2 | | 1953 |
| Stiefel Labs. Inc. | 2 | | 1962 |
| Syntex Labs. Inc. | 2 | 231 | 1975 |
| Technicon Corp. | 1 | | 1970 |
| The Upjohn Co. | 2 | 756 | 1973 |
| Warner-Lambert Co. | 4 | | 1963 |
| TOTAL | 82 | | |

Source : Chase

## Memorandum - Effects of FDA Export Restrictions on Merrell Dow Manufacturing Plant Construction

### Basic Concepts

1. When a new pharmaceutical product is launched outside the United States before it is approved for marketing in the United States, the lead-time for manufacturing plant construction planning is 2-4 years.

2. Once a foreign active ingredient's plant is geared up to manufacture a particular active ingredient, it is most unlikely that the production of that active ingredient will be brought back to the United States of America even after the U.S. NDA is approved.

3. To the best of our knowledge, the U.S. is the only major industrialized country that prohibits the export of drugs that are approved by other industrialized countries.

### Specific Effects of Export Restrictions - Merrell Dow

1. Merrell Dow launched a product called Terfenadine in Europe in 1981. Between then and now it has been marketed in most countries around the world. The U.S. NDA was submitted in February, 1983. It has not yet been approved. Because of existing FDA regulations it was not possible to manufacture this product in the United States. If the U.S. was now exporting this product to other global markets, the U.S. would have realized approximately $22 million in exports in 1984. Projections

Export

American Cyanamid Company
1575 Eye Street, N.W.
Washington, D.C. 20005
(202) 789-1222

July 1, 1983

Attached is an analysis of the potential impact on balance of trade, exports, jobs and capital investment if the current restrictions on exports of human drugs were lifted. The analysis is hypothetical due to the nature of the issue. It does not include exports of animal drugs because comparable data was not available. It was prepared by our corporate long-range planning department.

Also attached are two pages of specific examples of the adverse impact of the export ban on companies.

Please feel free to use these papers any way you believe they would be helpful. If I can provide you further information or otherwise be of assistance, please contact me.

Sincerely,

Dack Dalrymple
Washington Representative

DWD:pww
Attachments

AMERICAN CYANAMID STUDY

## POTENTIAL IMPACT ON EXPORTS, CAPITAL INVESTMENT, AND JOBS IF THE U.S. DRUG EXPORT BAN ON HUMAN DRUGS WAS LIFTED

- Total annual foreign sales of human drugs by companies or subsidiaries based in the United States are estimated to exceed $9 or $10 billion. However, these figures represent the theoretical outer limit for exports from the U.S., since significant overseas manufacturing will necessarily continue.

- More realistically, the impact on exports can be looked upon as being two components:

  - increased exports of existing drugs currently marketed overseas by U.S. based companies,

  - increased export potential for future NCE's (new chemical entities).

- Since no existing studies of this topic were identified, elements from many sources were pieced together to provide an "order of magnitude" estimate of the potential impact, as summarized below:

| | |
|---|---|
| - potential additional exports of existing drugs: | $1.4 billion |
| - additional exports for future NCE's - 5th year impact: | $360 million |
| - additional incremental capital investment: | $400 million |
| - new jobs potential: | 50,000 jobs |

- Relative to the 1981 U.S. balance of trade of $1.6 billion for human pharmaceuticals ($2.2 billion exports, $0.6 billion imports), rescinding the ban on exports could have potentially doubled the favorable trade balance. It is likely that a sizeable portion of these potentials could not be "recaptured," as foreign sourcing would continue in many cases. However, even at half the projected levels, the magnitude of the past and future opportunity cost is significant (M$880).

- In addition, animal drugs have not been included in the analysis. These provide further potentials for favorable export sales, investment, and jobs.

- Attached are descriptions of the variables and the assumptions made in preparing these estimates.

## A. 1981 International Sales by U.S. Companies of Drugs Not Approved in the U.S.

No single source exists for identifying historical NCE launches, introduction dates or locations, sales, or originating company. Therefore, the following is based on "averages" and the extension of limited studies to the total pharmaceutical population. Some speculation is inevitable, but the analysis is believed to present a reasonable range of expectations.

| | 1981 Sales ($ Millions) |
|---|---|
| 1. NCE's approved in the U.S. in late 1981 or 1982. 9 NCE's, excluding antibiotics not subject to the ban, out of 32 by U.S. co's. had identifiable international sales of (Table 1). . . | $642 |
| 2. NCE's launched internationally by U.S. companies between 1978 and 1981, but not available, in the U.S. (Table 2). | |
| a. Of 58 total NCE's identified, 7 had sales high enough to make the IMS top 1,000 pharmaceuticals list (top 1,000 all have sales over M$10). . . | $188 |
| b. Balance of 1978-81 NCE's (51), assuming sales of M$5 per NCE. . . | $255 |
| 3. NCE's not available in the U.S., but launched internationally by U.S. co's. prior to 1978. | |
| - From 1960-1977, 930 "original molecules" were introduced in 5 major markets (per 3/82 FDA Office of Planning and Evaluation Study covering the U.S., France, Germany, Italy, and the U.K.) | |
| - From 1960-81, 32% of all NCE's were ultimately introduced in the U.S. | |
| - According to SCRIP, from 1981-83 16% of global NCE's launched will be by U.S. co's.; of these, 60% will be launched overseas first. Therefore, assuming these ratios apply historically, NCE's by U.S. co's. launched overseas before the U.S. =<br>930 NCE's X 16% by U.S. co's X 60% overseas first = 89 NCE's | |
| - Assuming 32% will ultimately be launched domestically (the global average for 1981-83, although the percentage is likely to be higher for U.S. co's.), 68% would not have reached the U.S., i.e., potential exports =<br>68% X 89 NCE's = 60 NCE's | |
| - Presumably Pre-1978 NCE's that haven't made it to the U.S. would be the less significant compounds with relatively low sales potential (?). Assuming a level of M$5 per NCE (below the bottom of the global top 1,000 list), potential additional exports would be,<br>60 NCE's X M$5 per NCE = | $ 300 |
| 1981 Export Potential Sub-Total | $1,385 |

## B. New NCE's Launched by U.S. Co's. Overseas Before the U.S.

| | 1982 | Est. 1983 |
|---|---|---|
| Global first time NCE launches | 39 | 48 |
| Global first time NCE launches by U.S. Co's. | 7 | 7 |
| U.S. Co. NCE's launched overseas first (Per SCRIP) | 4 | 4 |

While new launches will not immediately contribute a significant volume of sales, cumulatively over several years, the volume could be significant. At the 1982-83 rate of overseas NCE launches, the following scenario could be hypothesized:

- NCE's launched overseas first = 4/year
- International sales in the first year equal M$10/NCE, increasing by M$10/year to M$50 the fifth year. This yields cumulative sales in the fifth year of M$600.
- If 40% of these NCE's are approved in the U.S. over this period, the "lost exports" would be 60% X M$600, or M$360 over five years.

## C. "Sensitivity" Factors

All factors that will impact exports have not been quantified. The major variables, which may exhibit counter-balancing affects, are listed here.

1. Rate of NCE development by U.S. companies. Shows signs of acceleration. New technologies and higher commitments to R&D investment may increase the number and significance of new NCE's developed in the future.

2. Sales Potential of NCE's is very uncertain. Significance of therapeutic gain, as measured by efficacy and safety, is difficult to predict. The inherent assumption in this analysis is that "average" values are a reasonable proxy for existing and future drugs.

3. FDA drug approval rate has shown signs of improvement. Since this is a major factor in determining if a drug is marketed overseas before the U.S., a decrease in approval time would reduce the export ban impact on future NCE's.

4. Local sourcing of drugs would continue in many cases even if the ban were lifted, particularly for existing drugs where local investments have been made. Also, many foreign nations require local manufacture or place severe restrictions on imports.

5. Foreign pharmaceutical companies located in the U.S. might choose to source from the U.S. for certain markets. The previous analyses have not attempted to adjust for potential additional exports by such companies.

## D. Impact on Capital Investment

The difficulty in estimating the impact on capital investment lies in the fact that we are really interested in "incremental" investment, i.e., above investment already in place. PP&E turnover (the ratio of sales to investment in plant, property, and equipment) averaged 2.2 in 1981 for the major U.S. medical companies.

Applying this ratio to potential additional export sales of $1.4 billion, required PP&E would be M$640. Estimating that the "incremental" turnover ratio might be double the 2.2 average, an "incremental" capital investment of M$320 for existing drugs would be possible.

Additional potential capital investment for NCE's over the next five years can be estimated as M$360 export sales potential ÷ 4.4 "incremental" turnover ratio = M$82.

## E. Impact on Jobs

Given the difficulty of estimating the total number of jobs involved for production and all related support services, the U.S. Department of Commerce and the Office of the U.S. Trade Representative standard of 30,000 jobs per billion dollars of exports is employed:

Add'l. Export Potential For Existing Drugs = $1.4 billion
@ 30 thousand jobs/billion $, new jobs created = 42,000

Add'l. Export Potential For NCE's Over 5 Years = M$360
@ 30 thousand jobs/billion $, new jobs created = 11,000

Written Statement of

MILES LABORATORIES, INC.

To The

COMMITTEE ON LABOR AND HUMAN RESOURCES

UNITED STATES SENATE

on

Pharmaceutical Export Reform

Hearings - June 28, 1984

Miles Laboratories, Inc., (hereinafter: Miles) is pleased to submit the following statement for the consideration of Chairman Hatch and the distinguished Members of the Senate Committee on Labor and Human Resources, in connection with the public hearings held by the Committee on June 28, 1984, on the subject of Pharmaceutical Export Reform.

Miles is a broadly diversified healthcare company, headquartered in Elkhart, Indiana, where it has about 3,000 employees. The company's products reach into every corner of the globe and its worldwide workforce of 12,000 help to carry our good name regularly into well over 100 countries. Miles annual sales exceed $1 billion and a good portion arises from our foreign markets. Miles is proudly celebrating its centennial year in 1984 and eagerly welcoming our second 100 years.

Miles' parent corporation, Bayer, A.G., of Leverkusen, West Germany, has been a respected name in the worldwide pharmaceutical industry for an even longer period. Bayer's strong commitment to research and development provides great promise, in shared enterprise with Miles, for advances in new drug development in the United States as well as around the world.

We applaud the efforts of this Committee to examine the effects of current United States law and regulations which prohibit the export of new pharmaceutical products not yet approved for United States marketing but already approved for use in overseas markets. And we support the introduction and passage of legislation to reform our current law so as to eliminate this disparity and permit us to engage competitively in foreign markets from the United States.

Miles is committed to continuing progress in medicine and better health, not only in the United States, but around the world. It is historical fact that both health problems and their solutions frequently emanate from foreign countries and we think it is unwise to have government-imposed obstacles which unnecessarily delay or prohibit the delivery of safe and effective drug products to any country's population.

Unpleasant historical perspective reveals that for centuries the average life expectancy of man was relatively short (at the end of the 19th century it was slightly above 30) and around the globe, epidemics have claimed millions of lives. Typhoid, cholera, smallpox, malaria, tuberculosis, scarlet fever, whooping cough, pneumonia, and other unpleasant names have been among man's worst enemies. In just one three-year period (1349 to 1351) it is estimated that in Europe alone, 25 million people succumbed to the plague. Parenthetically, we might add that our Cutter Laboratories Group is the only major supplier in the world of plague vaccine.

Certainly, things have improved and life expectancies extended, in large measure due to pharmaceutical advances. In the January 7, 1950, British Medical Journal, Sir Henry H. Dale described a vastly improved state of medicine, saying, "Today we have become accustomed to the effective and radical treatment, or prevention, of diseases which til recently were beyond the reach of remedy ... this aspect of medicine ... has been the subject of a greater advance since the century began than in all the centuries which went before it." Miles wants to help continue such progress.

The Pharmaceutical Manufacturers Association (PMA) has testified on behalf of the entire industry that it supports this Committee's efforts toward pharmaceutical export reform. PMA stated, "In the twenty year period between 1961 and 1980, nearly 1400 drug products were first introduced in a country other than the United States. In that period, only 114 were first introduced in the United States. France, West Germany, Japan, Italy and Great Britain were all ahead of the United States in number of drugs first introduced."

For whatever reasons, and there are several, often new pharmaceutical products are approved and sold in other developed nations months and years prior to United States Government, Food and Drug Administration (FDA) approval for marketing in the United States. It must be recognized that these foreign markets exist and will be satisfied. Due to the anomaly of United States drug export law, our country is in effect saying to us, "satisfy such foreign demand from anywhere but here." To our knowledge, no other major pharmaceutical producing nation has such a limitation.

Our nation should not underestimate the tremendous resources and costs which are necessary to develop new drug products. Even the most research-intensive company is faced with spending as much as $50 to $70 million and as many as 7 to 10 years in developing, testing, and obtaining FDA approval before it can market domestically and earn any return on a new life-saving or life-enhancing product.

The effect of current United States drug export law is to increase the costs associated with new products (both here and abroad) and with no corresponding benefit to health or safety. In addition, the net effect is to "export" the knowhow, technology, and jobs associated with the production of new drug products, rather than exporting the products themselves. To the extent we must invest abroad to satisfy the foreign markets, this country suffers not only the lack of investment, lack of new jobs, worsened balance of payments, but also continued diminution of pharmaceutical research and development in the United States.

We are not suggesting that we would "sell any product before its time", and we would not market here any product not approved here. But we are suggesting that products not yet "blessed" with final approval here but which are approved by a foreign nation should be permitted to be produced here and exported to the foreign markets. Such exports would be with proper safeguards, such as adequate information and notice to the FDA, authority from the foreign government, and proper labelling and packaging.

We are asking that our United States law and policy permit us to get on with our own business of developing and delivering better healthcare products for all nations. We would like to be able to compete in international markets from the United States. We seek to engage in research and testing of new products both here and in other countries concurrently (in parallel) and to utilize our research resources in this country without the unnecessary duplication of production facilities here and abroad.

The principal concepts in the legislation being considered by this Committee seem well designed. First, no product should be exported unless it is legal, registered, or approved for use or testing in the receiving country. Secondly, no product should be exported unless and until it has been approved for use or testing in a foreign country which has a relatively sophisticated product evaluation and approval system. And thirdly, adequate information must be submitted on such product to the FDA to permit the monitoring of safety experience and adherence to the requirements for labelling and packaging.

Miles believes that pharmaceutical export reform legislation incorporating the above concepts and eliminating the current requirement that a new drug, new animal drug, or biological product must be approved or licensed by United States authorities for use in the United States before it can be exported from the United States, will have the beneficial effects of:

(1) encouraging the expansion of domestic job development in the United States pharmaceutical industry;

(2) increasing the efficiency and utilization of existing pharmaceutical

manufacturing facilities in the United States;

(3) encouraging the expansion of pharmaceutical manufacturing facilities in the United States;

(4) favorably impacting the United States balance of payments;

(5) positive stimulation of research and development and new technology both in the United States and abroad; and

(6) further incentive for the research and development of orphan drugs, or drugs of little commercial value, and drugs for tropical diseases.

It appears that our current law and regulations were based in part on the fear that harmful products would be exported to unsuspecting third world countries. But such fear is unwarranted when we first apply the approval systems of sophisticated nations which require full and adequate testing of new products. It happens that many third world nations are those in greatest need of specialized drugs (such as tropical drugs) for which there is little or no market in the United States. The added incentive of producing such products domestically would be attractive to Miles and other companies, to the benefit of the third world nations, by attracting involvment in the development of specialized drugs which would not otherwise be likely to occur in the United States.

Furthermore, the culture and customs in many countries result in the use of a different mix of pharmaceutical products as compared to the United States. For example, in Japan there is a proportionately greater use of biologicals. Cutter Laboratories, despite its preeminent standing in the biologicals market, found great difficulty in introducing an intravenous gamma globulin in Japan, not because the product class was new (they had been long-used in Japan) but because we encountered difficulties in sending clinical samples from the United States to Japan while the product was pending licensing approval in the United States. Japan requires local clinical testing just as does the United States. Obviously, we need to perform clinical testing in both countries, but the kind of clinical studies would be different in order to meet the unique requirements of each country.

The Japanese example illustrates that two equally rigorous drug approval systems can operate with distinctly different methodologies. In addition, products which are unique to United States clinical practice can be more common in international markets and achieve relatively quicker approval under the reformed system we advocate. An example of this kind or product is a hyperimmune intravenous immune globulin that has a high titer of specific antibodies for use in treating common diseases overseas that are rare or unusual in the United States. These products, approved in the foreign markets based on their culture, customs, and regulatory systems, should be permitted to be exported prior to approval in the United States. Production of these products can be handled more efficiently with centralized domestic production. In such cases, both nations would have products evaluated and approved by their own regulatory process. But the unnecessary duplication of production facilities is eliminated.

With regard to animal drugs, the United States may actually lag behind even some third world countries in animal drug development. Many nations have or have ready access to all the technology necessary for them to know what animal drug products they want to meet their circumstances and needs efficiently and safely. We believe that unapproved drugs for non-food animals should be exportable with no restrictions other than that the product is acceptable for sale and use ("registerable") in the importing country. For food animals, unapproved drugs should be likewise exportable, except that notice and adequate information should be submitted to the FDA (or USDA) to assure that the United States government knows what countries are receiving the product so they can monitor food imports from that country if desired.

Our Bayvet Division, specializing in animal drugs, has encountered instances in which it has been unable to manufacture finished product for Canada (without a manufacturing facility in Canada), for instance:

(a) an identical formulation was cleared in both the United States and Canada, but the United States product was approved only for dogs, while the Canadian product was approved for dogs and cats. Bayvet (Shawnee, Kansas) was prevented from producing and exporting the Canadian-labeled product because it was not an approved United States label.

(b) a product was registered in Canada first even though the applications containing the same data were submitted for registration in both Canada and the United States at the same time. The result was that the marketing in Canada was delayed for months because the only manufacturing facility was in the United States and the product was not yet cleared in the United States.

We hope this Committee and Congress can act expeditiously to reform the drug export law and eliminate the disparity in current law which requires that a product be approved for sale in the United States before it can be manufactured here for export to a country in which it is already approved. We support necessary safeguards, as described above, but we believe the current export prohibition is without discernable benefit to the United States and that, indeed, the repeal of the prohibition would provide several benefits to the United States, as well as to the foreign nations demanding the products involved.

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June 26, 1984

Senator Orrin G. Hatch
Chairman
Committee on Labor and Human Resources
United States Senate
Washington, D.C. 20510

Senator Edward M. Kennedy
Ranking Minority Member
Committee on Labor and Human Resources
United States Senate
Washington, D.C. 20510

Dear Senators Hatch and Kennedy:

Export of Unapproved Drugs

I am writing on behalf of the Natural Resources Defense Council (NRDC), to express our deep concern regarding the proposal before the Committee on Labor and Human Resources to amend the Federal Food, Drug and Cosmetic Act to ease restrictions on the export of drugs not approved for use in the United States. I request that this letter be included as part of the record of the Committee's June 28th hearings on this matter.

NRDC is a national non-profit environmental protection organization with over 40,000 members and contributors in the U.S. and overseas. For over seven years, NRDC has been actively involved in the development of United States law and policy affecting the international environment, particularly the export of banned or severely restricted products and substances from the

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U.S. We have also participated in a number of international efforts, under the auspices of the Organization for Economic Cooperation and Development and the United Nations, to develop international policies regarding the worldwide trade in potentially hazardous products.

The present U.S. policy prohibiting the export of drugs not approved for use domestically has been in place since 1938, despite several efforts in recent years to alter it. Because of the very careful testing and review process in the United States for new drugs, American pharmaceuticals represent the highest standard of safety and quality in the world. The current drug export policy ensures that those standards are maintained in our trade with other nations. The policy should not be amended without giving careful thought to the possible adverse consequences which any loosening of restrictions could entail; nor should it be altered in the absence of a clear demonstration of need for the changes. The proponents of relaxing the current policy have not met this burden.

The proposed changes in the law would reverse our current policy to allow the shipment of untested and possibly dangerous drugs, on the rationale that other nations allow such exports and are profiting from them -- and that therefore we should too. This would be an unfortunate and short-sighted change in the traditional U.S. position of international leadership in the area of health and safety. It would open the door to potential abuses and harms, particularly in many developing countries, without necessarily accomplishing the objectives of promoting jobs, growth and research in the domestic pharmaceutical industry.

Such a change would, moreover, run counter to the growing trend to develop broadly agreeable international standards to ensure more careful research and marketing practices in the pharmaceutical industry. If the U.S. were to loosen its drug export policy at the very time that much of the rest of the world is seeking to tighten standards, the U.S. would once again -- as in the infant formula case -- be taking a highly visible and embarrasing stance out of step with its allies and trading partners on an important issue of public health and safety.

There are several major problems with the proposal which this Committee should carefully consider. Under the proposal, exports of unapproved drugs will be permitted to countries determined to have an "adequate governmental health authority to approve drugs." What is deemed "adequate" is a matter left open to be decided by the Secretary of Health and Human Sevices, with some public comment. Determining which countries have "adequate" drug approval systems could prove highly problematic. Is anything less than the U.S. standard "adequate" from our own perspective? Many in the U.S. are in fact concerned that our own process is not always rigorous enough. If we accept less strict standards in other countries as being "adequate," we risk giving the impression that either our own standards are overly burdensome or that we are willing to embrace much laxer safety and health conditions for other countries that we would allow for ourselves. We could be accused of promoting a double standard in our export laws, merely for the sake of profits. More serious than that, changing the current policy could give the impression both at home and abroad that the U.S. is willing to allow drugs to be tested on the people of other countries before being approved for use in our own country.

Views are often expressed regarding the existing policy that the U.S., by prohibiting or regulating the export of potentially harmful products, is improperly applying its own evaluation of the health risks and benefits of certain products to other countries. Yet the present proposal would appear to replace making judgements about the specific risks and benefits of particular drugs with much broader judgements about the capabilities of other sovereign nations to regulate themselves and to make their own judgements in this regard. This is, in our view, a far less acceptable practice than the current policy permits.

Issues of comity and respect for our trading partners and allies also arise. It could be highly embarrassing to the U.S. if important trading partners in the developing world or Europe do not meet the standard of having an "adequate" drug approval process. This could generate strong political pressures to approve specific countries for inclusion on the list of countries to which all drugs may be exported, even if those countries' regulatory processes are in fact inadequate. The result would be an export policy full of gaps, allowing potentially very dangerous drugs to be exported and used abroad. The proposed provisions allowing exports to countries not on the approved list, subject to certain conditions, creates another loophole with even greater potential for abuse and harm in countries which simply do not have sufficient institutional or technical capability to conduct the sophisticated testing which the approval of new drugs requires.

In short, this proposal would create a complicated and burdensome regulatory structure while increasing the likelihood of the harmful misuse of drugs in many countries that are least able to protect themselves. It is noteworthy that it is precisely these countries which are seeking the development of international standards to curb the potential for abuse in the marketing of pharmaceuticals around the world.

Finally, it is far from clear what the proposal would accomplish for the United States. Some representatives of the drug industry have made claims that the current law forces research and production to move overseas, and inhibits development of new drugs for which there may not be a market in the U.S. but which are vitally needed abroad. However, the data presented do not justify the proposition that research and manufacturing will move back to the U.S. if the law is changed, or that substantial new efforts will be mounted to develop drugs particularly needed in developing countries. The multinational drug companies have established facilities in numerous countries around the world for many reasons, including powerful market and strategic considerations, which will continue to affect their business decisions whether or not the U.S. drug export policy is amended.1/ There is little or no evidence that the U.S. companies would mount new research campaigns to develop drugs to treat health problems not encountered here merely because the export laws were changed.

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1/ Recent studies on industrial siting support this conclusion. See, for example, C. Duerksen, Environment Regulation of Industrial Plant Siting: How to Make It Work Better (Conservation Foundation, 1983).

Once again, we feel strongly that it is not in the best interest of the United States to reverse its long-standing policy by relaxing drug export laws under the proposed legislation.

Sincerely yours,

S. Jacob Scherr

S. Jacob Scherr
Senior Staff Attorney

Consumers
Union
Publisher of Consumer Reports

July 10, 1984

The Honorable Orrin Hatch
U.S. Senate
135 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Hatch:

This letter is in regard to hearings held by the Senate Labor & Human Resources Committee on June 28 on regulation of the drug industry. Consumers Union* has serious concerns about any easing of current laws relating to the export of hazardous drugs. I would appreciate your including this letter in the hearing record.

Consumers Union has, throughout our forty-eight year history, been concerned with the safety of consumer products. Because of their potential to cause harm as well as great good, pharmaceuticals were one of the first products to be regulated in the United States. Unfortunately, many less-developed nations presently have neither the resources nor the know-how to establish sophisticated regulatory agencies like our own Food and Drug Administration. Therefore in many such countries there is no such thing as a prescription drug. Any drug product can be sold over the counter.

---

*Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the State of New York to provide information, education, and counsel about consumer goods and services and the management of the family income. Consumers Union's income is derived solely from the sale of *Consumer Reports*, its other publications, and films. Expenses of occasional public service efforts may be met, in part, by nonrestrictive, noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports*, with approximately 3 million circulation, regularly carries articles on health, product safety, marketplace economics, and legislative, judicial, and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

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Because of such a lack of regulation abroad, there is already a serious problem in less-developed nations of inappropriate advertising and marketing of very hazardous drugs. Anabolic steroids, for example, are widely marketed abroad as a cure for malnutrition. The anti-diarrheal enterovioform is available without a prescription despite the fact that it appears to cause nerve damage in a significant number of the patients who use it.

Relaxing restrictions on the export of drugs that are totally unapproved in the United States will only exacerbate the problem. It will affect not only foreign citizens, but Americans living and travelling abroad. Consumers Union therefore strongly opposes any weakening of the current restrictions in the Food Drug and Cosmetic Act relating to drug exports. We hope you will oppose any industry efforts to create new loopholes in the law.

Sincerely,

Rhoda Karpatkin

Rhoda Karpatkin
Executive Director

84-51

# STATEMENT BY THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS TO THE SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES ON S. 2748, THE DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT OF 1984

**June 28, 1984**

The AFL-CIO would like to take this opportunity to commend you for holding hearings on S. 2748 the Drug Price Competition and Patent Term Restoration Act of 1984. Organized labor urges the members of the Committee to support this legislation which would resolve the long-standing problem of making generic drugs available to all Americans at low cost while dealing fairly with the patent rights of drug manufacturers.

The AFL-CIO strongly supports this legislation which, if passed, will make as many as 125 prescription drugs available to consumers in generic form and save purchasers $1 billion over the next 12 years. Although the AFL-CIO has had deep reservations about the issue of patent extension, we are pleased that the sponsors of this legislation were able to develop a compromise that would expedite the approval of generic drugs and allow manufacturers to make up time lost on their patents as a result of pre-market approval, without extending the current 17 year time limit.

As a nation, we now spend $350 billion on health care services. Over $20 billion is spent on drugs and 80 percent of this amount is paid for out-of-pocket by health care consumers who are extremely vulnerable to increases in the cost of prescriptions. Since 1980, drug prices have risen by a total of 37 percent, compared to a 13 percent increase for other commodities in the Consumer Price Index (CPI). According to the U.S. Bureau of Labor Statistics, in 1983 the price of cardiovascular medicines rose by 12.5%, sedatives increased by 22% and the price of cancer therapy drugs rose by a whopping 24%.

Employers who are faced with health insurance premiums rising at annual rates of 25 to 40 percent are pressuring organized labor to accept reductions in collectively bargained health care benefits. There has been pressure on labor at the bargaining table to drop drug coverage, discontinue payment for eyeglasses and cut back on preventive care services. The

AFL-CIO has been working with its affiliated local and international unions to develop initiatives which will reduce health care costs without reducing benefits. These initiatives include providing coverage in contracts for preadmission testing, preadmission certification, mandatory second surgical opinion, preventive care and early diagnosis and treatment. Unions which have made, or are in the process of making, provision in their contracts to cover the cost of generic drugs, often find that many of the most frequently prescribed drugs do not yet have on the market approved generic substitutes.

By allowing manufacturers of generic drugs to file a scaled-down drug application, called an ANDA, this legislation would remove the duplicative testing requirements that prevent a generic drug from coming on the market for up to 3-5 years after the patent of an equivalent brand name drug expires. This delay works to the disadvantage of the consumer by perpetuating the monopoly the original manufacturer has had on a brand name drug and giving the manufacturer leeway to keep prices high.

The AFL-CIO believes that if the Food and Drug Administration certifies that generics are chemically and therapeutically equivalent to brand name drugs, which have already been approved, they ought not to be required to perform additional and costly tests before being allowed to penetrate the market. Consumers have been waiting far too long for legislation to be passed which would expedite the approval process of generic drugs.

We are encouraged that the majority of the Pharmaceutical Manufacturers Association (PMA) has endorsed this bill. In the past, organized labor has taken the position that patent term extension legislation is anti-competitive, forces consumers to pay top dollar for prescription drugs and prevents lower cost substitutes from coming on the market. We are prepared, however, to support the provisions of this bill which would allow manufacturers whose drugs were approved prior to their product coming onto the market to make up for time lost on their patent, in exchange for shortening the approval process for generic drugs. However, if the patent term provisions are expanded in any way, we would be forced to reevaluate our support for this legislation.

Thank you for giving us the opportunity to share our views on this issue with the Committee and we urge you to contact us if we can be of further assistance on this issue.

84-50

## STATEMENT BY THE
## AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS TO THE HOUSE SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES, AND THE ADMINISTRATION ON JUSTICE, COMMITTEE ON JUDICIARY ON H.R. 3605, GENERIC DRUG - PATENT TERM RESTORATION

June 27, 1984

The AFL-CIO would like to take this opportunity to commend you for holding hearings on the Abbreviated New Drug Application (ANDA) - Patent Term Extension legislation. Organized labor urges the members of the Subcommittee to support this legislation which would resolve the long-standing problem of making generic drugs available to all Americans at low cost while dealing fairly with the patent rights of drug manufacturers.

The AFL-CIO strongly supports this legislation which, if passed, will make as many as 125 prescription drugs available to consumers in generic form and save purchasers $1 billion over the next 12 years. Although the AFL-CIO has had deep reservations about the issue of patent extension, we are pleased that the sponsors of this legislation were able to develop a compromise that would expedite the approval of generic drugs and allow manufacturers to make up time lost on their patents as a result of pre-market approval, without extending the current 17 year time limit.

As a nation, we now spend $350 billion on health care services. Over $20 billion is spent on drugs and 80 percent of this amount is paid for out-of-pocket by health care consumers who are extremely vulnerable to increases in the cost of prescriptions. Since 1980, drug prices have risen by a total of 37 percent, compared to a 13 percent increase for other commodities in the Consumer Price Index (CPI). According to the U.S. Bureau of Labor Statistics, in 1983 the price of cardiovascular medicines rose by 12.5%, sedatives increased by 22% and the price of cancer therapy drugs rose by a whopping 24%.

Employers who are faced with health insurance premiums rising at annual rates of 25 to 40 percent are pressuring organized labor to accept reductions in collectively bargained health care benefits. There has been pressure on labor at the bargaining table to drop drug coverage, discontinue payment for eyeglasses and cut back on preventive care services. The AFL-CIO has been working with its affiliated local and international unions to develop initiatives which will reduce health care costs without reducing benefits. These initiatives include providing coverage in contracts for preadmission testing, preadmission certification, mandatory second surgical opinion, preventive care and early diagnosis and treatment. Unions which have made, or are in the process of making, provision in their contracts to cover the cost of generic drugs, often find that many of the most frequently prescribed drugs do not yet have on the market approved generic substitutes.

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Thank you for giving us the opportunity to share our views on this issue with the Subcommittee and we urge you to contact us if we can be of further assistance on this issue.

# TESTIMONY OF SYBIL SHAINWALD

National Women's Health Network

June 28, 1984

The National Women's Health Network is the only public interest organization devoted solely to women and health. It represents a half a million women across the country and has ties to many international groups. Of utmost concern to NWHN is the health and safety of women and children throughout the world. We are presently a member of the Coordinating Committee on Toxics and Drugs and have aided the United Nations in assemblying a compendium of banned, hazardous and severely restricted products.

On behalf of NWHN's individual members, state affiliates, 350 organizational members and health centers, we wish to protest the drug industry's proposal which would permit American drug companies to manufacture and export unapproved drugs under certain circumstances, including drugs voluntarily withdrawn from the American market or from the application process because of serious problems.

The present proposal is being promoted on purely economic grounds and it should be noted that the transnational drug industry is one of the most powerful and profitable industries in the world. In 1981, the U.S. drug industry was the second most profitable after the oil industry. Too much of the world suffers from the side effects of American-made drugs from companies who market expensive unnecessary and sometimes harmful drugs in countries and communities where they can do more harm than good. The availability and prices of drugs in any country are often more a function of the sales strategy of the various drug companies operating than of any rational response to the health needs and priorities of the particular nation. Over 80% of the world production of pharmaceuticals originates in industrialized nations. As a result, most developing countries have to import drugs to meet their needs, at rapidly increasing costs. In recent years, underdeveloped countries have been doubling their expenditures on drugs every four years. Despite the vital role which drugs can play in the provision of health care, resources are often needlessly spent on drug products which are of questionable value, inappropriate or over-priced.

The World Health Organization has estimated that only about 200 drugs are essential for the provision of any nation's health care. Aggressive marketing in developing countries often results in the selling of unnecessary drugs. For example, the ratio of detailmen to physicians in the United States is roughly 1 to 10, but it is 1 to 5 in Columbia, 1 to 3 in Guatemala, Mexico and Brazil. The developing nations already pay about 50% of their total health care budget for pharmaceuticals. While drugs have helped curb and even irradicate diseases which were major killers in the past, no pharmaceutical agent can compensate for lack of food or clean water. Up to 25% of the drugs marketed are vitamins and tonics, rather than essential life-saving drugs such as antibiotics. Are we going to ask undeveloped nations to allocate even more of their scarce resources for pharmaceuticals while we are unwilling to protect them and are going so far as to set a double standard? What's not good enough for Americans cannot be good enough for the Third World.

Even now we do not require the same labeling as the equivalent products in the United States. Syntex marketed Brevnor in Malaysia without warnings of potential blood clots or impaired liver function as known side effects of the drug. Dipyrone is a painkiller banned in this country by the FDA. It is widely sold in the Third World under the names of Conmel and Beserol without any warnings. One of the consequences of inadequate labeling which we permit is uninformed use often resulting in unnecessary illness and death.

Instead of another loophole for the drug industry, we should be requiring reasonable controls on the international pharmaceutical industry. It is incumbent upon the Congress of the United States to aid in achieving the World Health Organization's aim of "health for all by the year 2000" by looking closely at the relationship between the industry and the medical profession and by examining the central problem of the production and marketing of therapeutically questionable drugs at inflated prices to the world's poor.

What the present proposal will do is add to the multiplicity of drugs in the market place and boost profits not health. In Nepal there are 67 brands of Chloramphenicol, 78 antacids, 36 cough syrups and 42 brands of aspirin. Do the people need better nutrition or do they need more pills?

Too many products have been shipped overseas after being withdrawn from the U.S. market. Witness the Dalkon Shield sold by A.H. Robins. Albamycin is manufactured by the Upjohn Company. Its use was severely restricted in 1969 because 1 patient in 5 had allergic reactions to it and 110 cases of drug-induced blood diseases were reported. It is still sold in Kenya, Brazil, Costa Rica and 27 other countries. In Brazil the labeling mentions no side effects. Cee NU is a painkiller made by Bristol Myers. The Physician's Desk Reference in the United States warns that the drug can cause cancer. The company advertised the drug in the "Bangladesh Times" in 1981 as a life-saving anti-cancer drug at a price for six capsules of $36.00. Per capita income in Bangladesh is $100 a year. There are thousands of examples like this. The drug companies' record leaves much to be desired.By offering thousands of products in a virtually unregulated market place, the multinational companies have often created more harm than they cured. The financial stakes are high with overseas sales of 8.6 billion dollars reported for 1979.

It is incumbent upon the Congress of the United States to set the standards of behavior and to protect the health of people everywhere, rather than the profits and pocketbooks of transnational corporations. The so-called protective provisions in the proposed legislation are totally unrealistic. Columbia, for instance, is a country with one of the toughest drug laws in Latin America, but it has no funds for an enforcement program. The label "made in the United States" should continue to mean that at the very least the drug has been approved by the FDA. It is a label that is respected around the world. U.S. companies may now ship raw materials for banned drugs overseas, assemble out-lawed products abroad and market them there under the name of a foreign subsidiary. Pharmaceuticals are bought by consumers who are at their most vulnerable and few know that potentially dangerous drugs readily available at the local pharmacy are banned or restricted in the United States.

The drug companies have been exporting their investments for years. In 1981 Upjohn issued a press release about its recent expansion of manufacturing in research and developing facilities. Among the expenditures that Upjohn reported were $3 million in Indonesia; $10 million in Mexico and $11 million in Brazil. Brazil is one of the fastest growing markets for investments by drug manufacturers. Its military government is so eager for foreign investment that drug manufacturers encounter virtually no restrictions, but other countries have rebelled. As the President of Kenya has stated "We do not want to be used as guinea pigs and as a dumping ground for unproven drugs."

We should resist every effort by the industry to view pharmaceuticals simply as consumer products which are subject to the laws of supply and demand. They are essential elements in health care whose availability must respond to real needs.

NWHN asks you not to condone this latest caper by the drug industry. The present proposal fails to take into account the lives and welfare of foreign consumers and will benefit the already healthy multinational pharmaceutical companies. We urge you to reject it.

# STATEMENT BY

PHILIP R. LEE, M.D.*

Submitted to

THE COMMITTEE ON LABOR AND HUMAN RESOURCES
UNITED STATES SENATE
NINETY-EIGHTH CONGRESS

on the December 5, 1983 Draft of Drug Export Reform Legislation
to be considered as an addition to the Drug Price Competition and
Patent Term Restoration Act of 1984 (S. 2748)
June 28, 1984

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*Professor of Social Medicine and Director, Institute for Health Policy Studies, School of Medicine, University of California, San Francisco.

Mr. Chairman, members of the Committee. I am pleased to respond to the Committee's request to submit a statement for the record with respect to the export of drugs, specifically the proposals to modify section 801 of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 381). Although I will draw on my work and that of my colleagues in this statement, the views I express are my own.

The proposed amendment to Section 801 of the Food, Drug and Cosmetic Act would add a new subsection (e) designed to allow the export of drugs from the United States to foreign countries that permit the drugs to be marketed, even though the drugs are not approved for use in the United States. The purpose is to accomplish this without allowing the dumping of unsafe or ineffective drug products on foreign countries. I regret to say that my analysis indicates that the proposed provisions do not achieve the stated objective and I would oppose the proposed amendments unless major changes are made.

## Section (e)(1) defines the drugs (including biological products) that may be exported under the proposed amendment.

The export provisions of the proposed amendment are limited to those drugs which under current law are prohibited for export because they have not been approved or licensed for interstate distribution. The amendment applies to drugs for both human and animal use and it includes biological products and nonbiological products.

The proposed export provisions do not apply to antibiotic drugs for human use or to any other drug presently allowed to be exported under Section 801 (d)(1) of the Food, Drug and Cosmetic Act. This is a serious omission because there are major problems associated with the labeling, marketing, and use of antibiotics exported to Third World countries by U.S. pharmaceutical manufacturers, as well as by other antibiotic manufacturers throughout the world.

The problems are documented in two books: (1) Milton Silverman, The Drugging of the Americas, Berkeley, University of California Press, 1976 (particularly chapter 2, pages 7-22, on antibiotics) and (2) Milton Silverman, Philip R. Lee, and Mia Lydecker, Prescriptions for Death: The Drugging of the Third World, Berkeley, University of California Press, 1982 (particularly pages 19-43).

In both studies of drug promotion and labeling in Third World countries we identified many instances in which U.S. companies minimized the hazards of specific antibiotics (e.g., chloramphenicol), failed to provide specific information about appropriate use (e.g., tetracycline), and exaggerated the potential benefits (chloramphenicol).

The identical products (e.g., chloramphenicol) marketed by the same company were promoted in some countries only for the treatment of the same diseases (e.g., typhoid fever) that are approved for use in the United States, while in other countries they were recommended for a wide range of minor infections.

Combination antibiotics not approved for use in the United States (they were removed after the National Academy of Sciences' review of effectiveness in the 1960s and 1970s) were nonetheless exported to Third World countries.

In developing countries scores of fixed combination antibiotic products are promoted, prescribed, and used. Among them we found the following combinations:

-- chloramphenicol with streptomycin or tetracycline
-- tetracycline with amphotericin, novobiocin, nystatin or oleandomycin
-- penicillin with streptomycin
-- ampicillin with cloxacillin.

In our 1982 book we included information only on chloramphenicol-containing combination antibiotics. Again, we found U.S. pharmaceutical manufacturers, as well as many others, providing information that was seriously inadequate.

Why all the worry about labeling, promotion, marketing, and dumping of antibiotics when they do so much good? Economics aside (the cost of inappropriate use of antibiotics is very high throughout the world), these practices have already resulted in the emergence of resistant strains of at least six species of bacteria, including: (1) typhoid bacillus (Salmonella typhi), (2) Shigella dysenteriae, (3) gonococci, (4) pneumococci, (5) Haemophilus influenzae, and (6) meningococci. Problems exist for individual patients with antibiotic-resistant organisms and for travelers who may acquire such resistant infections and return to their own countries (e.g., U.S.A., U.K.) with the resistant strains. There also is the potential for epidemics, such as have occurred in Central America and Mexico. I discussed this problem in detail in my 1976 testimony before the Subcommittee on Monopoly, Select Committee on Small Business. The problem remains and, if anything, has become more serious since the mid-1970s. Detailed information could be provided by the Centers for Disease Control, U.S. Public Health Service, Department of Health and Human Services.

The proposed amendments are seriously deficient because they do not include antibiotics. The United States should not have one policy for the export of antibiotics and another for all other drugs. This section, if included, should be revised to include antibiotics.

Sections (e)(2)(A) and (B) and (C) define the foreign countries to which a drug may be exported.

These sections identify those countries to which drugs not approved for use in the United States can be exported, including those on a list of countries "determined by the Secretary to have an adequate governmental health authority to approve drugs." It is stipulated that the list "shall be established before the expiration of the ninety day period beginning on the date of enactment of this subsection." Section (C) also defines the conditions that permit export of a drug not approved for use in the United States to countries not on the list maintained by the Department of Health and Human Services.

The provisions in these sections are too vague. Congress should be more specific in its instructions with respect to the criteria for approval. It is one thing to have an adequate governmental health authority to approve drugs; it may be quite another to have a government agency that effectively administers laws that regulate both the safety and effectiveness of drugs. I found the language in the Explanatory Statement (December 5, 1983) that accompanied the proposed amendment helpful in clarifying congressional intent. Particularly useful was the sentence: "To be listed, a foreign country must have in place both regulatory procedures sufficient to assure adequate scientific review of the preclinical and clinical studies relating to the safety and effectiveness of drugs before they are approved for marketing, and trained personnel with sufficient scientific knowledge and experience to implement these procedures" (page 8 of December 5, 1983 Explanatory Statement). Although there are a number of examples of countries with effective regulatory agencies that could comply with such conditions, including the United Kingdom, Canada, Sweden, and Norway, it would be very difficult for the Food and Drug Administration to develop a list of approved countries, for both technical and political reasons. For example, among the ten countries of the European Economic Community with equivalent policies relating to drug regulation there are marked differences in the effectiveness of the regulatory processes. Experts could probably reach a consensus on a small number of countries with effective drug regulatory systems, but there would quickly be differences of opinion about the rest.

Unfortunately, there have been relatively few studies of the performance of drug regulatory systems to determine how efficiently they operate and how effectively they serve the public. In 1979, the Regional Office for Europe of the World Health Organization (Copenhagen, Denmark) initiated studies of European drug regulation. The project team currently comprises Dr. M.N.C. Dukes, Dr. Inga Lunde, and Mr. Alman Grimsson, who are working closely with a wide range of industry, academic, and regulatory experts in the field.

The approach used by the WHO's Regional Office for Europe in the study of drug regulation is three-fold: (1) retrospective studies of total regulatory performance in a number of countries, comparing the regulatory decisions, the evidence required (e.g., safety and effectiveness), and the standards applied; (2) an assessment of the impact of regulatory decisions on public health (e.g., iatrogenic disease); and (3) collaborative studies, involving a number of research based companies and various control agencies to examine the way in which specific drug applications have been handled and to identify points in which performance of the applicants or agencies could be improved. In addition to these three main approaches, there are also specialized studies carried out, such as the validity of some types of evidence used in assessing new drugs.

The results of long-term studies, such as the WHO study, would be essential if any sound decisions are to be made by the FDA or any other agency with respect to the effectiveness of drug regulatory systems.

The technical problems entailed in developing an approval list of countries with effective regulatory systems is thus a formidable one. It could hardly be accomplished in the limited time allowed by the law.

Beyond the technical problems, however, are the political problems that might result from the FDA, the U.S. Department of Health and Human Services, or any other agency of the U.S. government making judgments about the effectiveness of drug regulatory agencies of other governments. How would France, Spain, Brazil, the Federal Republic of Germany, Italy, Greece, Ireland, the United Kingdom, Sweden, Japan, Mexico, Canada, Indonesia, Norway, Egypt, Israel, and the rest of the world's nations respond to the U.S. government (through the FDA) judging their regulatory agencies? My guess is that this would cause serious problems that would not be resolved easily.

Under Section (e)(2)(C) it is noted that under selected additional conditions a drug may be exported to a foreign country that is not on the original list.

I would oppose the export of a U.S. manufactured drug from one of the countries with an adequate regulatory system to another country, with or without labeling changes, which I believe would be permissible under Section (e)(2)(C)(i).

With respect to those drugs that are "investigational," I believe that the drugs should be approved only for export if Phase I of IND testing has been completed.

Section (e)(3) further defines the conditions for export of drugs not approved for use in the United States.

Section (e)(2)(C) and Section (e)(3) appear to apply primarily to Third World countries. In order to consider the particular reasons for exporting unapproved drugs to these countries, it is necessary to understand the disease burden in the Third World. The case is usually made that these countries have diseases not present in the United States and, therefore, the drugs needed to treat diseases in these countries should not require FDA approval because they won't be used in the United States.

Among the most widespread diseases in the Third World are the infectious diseases. These are basically of three types: (1) airborne diseases found in industrialized as well as developing countries, such as tuberculosis, pneumonia, diphtheria, bronchitis, pertussis (whooping cough), meningitis, measles, influenza, and chicken pox; (2) infectious diseases that are transmitted by human feces, and therefore by contaminated water, such as the intestinal parasites and diarrheal diseases, typhoid, cholera, and poliomyelitis; (3) vector-borne diseases that are now rarely found in Western industrialized nations, such as malaria, Chagas' disease, trypanosomiasis (sleeping sickness), schistosomiasis (bilharziasis), and onchocerciasis (river blindness). For the vector-borne diseases and the diseases transmitted by human feces, public health measures and improvements in nutrition have been the key factors in reducing morbidity and mortality. For the airborne diseases, antibiotic treatment, immunization, and public health measures have proven important.

Morbidity and mortality patterns in Third World countries are the result of many variables; consequently these may vary from country to country as well as within individual countries. There are, however, some general patterns in different regions. In Africa, the leading diseases include malaria, measles, influenza, and gonococcal infection, followed by bacillary dysentery, intestinal parasitism, tuberculosis, chicken pox, diarrheal diseases, and pertussis. In Asia (excluding India), influenza, malaria, tuberculosis, trachoma, and bacillary dysentery are leading causes of morbidity and mortality. Latin America is in a transition with chronic diseases beginning to emerge as a major cause of death. Bacillary dysentery, tuberculosis, and malaria are still major problems in some areas as are ancylostomiasis and Chagas' disease.

The presence of these diseases, particularly the vector-borne diseases, is one of the major health problems in Third World countries. To deal with these problems requires far more research investment by the governments of Third World and industrialized countries. It also may require some modification of current U.S. laws related to export of drugs (including antibiotics), modification of regulatory mechanisms in the Third World and industrialized countries, and major improvements in public health, nutrition, health care, housing, and other economic and social conditions. Drug regulation is only one of the many factors affecting availability and use of drugs.

The problems that we described in Prescriptions for Death: The Drugging of the Third World arise, in part, from a failure of regulatory processes, including those in the United States. Section (e)(2)(C)(i) and Section (e)(3) would be far more effective in protecting Third World people if they required that a drug not approved for use in the United States be approved by three of the countries on the list maintained by HHS. A one-country approval, as proposed, would, I fear, permit potentially serious problems for some Third World countries.

Another requirement proposed in the Section (e)(2)(C)(ii) is that a drug may not be exported to any country not on the HHS list of countries with an adequate drug regulatory system, unless the drug is the subject of an investigational exemption for testing being conducted in the United States during the time the drug is being exported, or an application has been submitted for United States approval or licensing, or HHS has determined that the drug may nonetheless be exported because of particular diseases or health conditions, in the specific countries to which the drug is intended for export, that do not exist in the United States.

This provision needs to be tightened and it should apply to all drugs that are exported, whether to a country with an approved regulatory agency and process or one not on the list. All drugs not approved for use in the United States that are exported should be subject to an effective IND, indeed they should have completed Phase I testing before being approved for export.

The other proposed provisions related to export of drugs to an unlisted foreign country do not provide adequate protection against possible abuses, such as the export of fixed combination antibiotics or drugs where the potential adverse effects outweigh any possible benefits (e.g., aminopyrine, enterovioform).

An example of the loose language in the proposed draft amendment is the following:

> "(A) it is not the subject of final action by the Secretary or the Secretary of Agriculture denying, withdrawing, or suspending approval or licensing on the basis of safety or effectiveness or otherwise banning the drug or, if it is the subject of such action, the Secretary or the Secretary of Agriculture has issued a notice of a determination that such drug is nonetheless eligible for export because of particular diseases or health conditions in the country of import that do not exist in the United States;"

The use of the terms "particular diseases" and "health conditions" permit very broad interpretation. If these terms are to be used, they should be limited to such terms as "vector-borne diseases" or "tropical vector-borne diseases" that do not exist in the United States. The use of the word "health conditions" should be eliminated because the drugs that would be exported would be used to treat or prevent specific diseases, not "health conditions."

Although a number of vector-borne diseases, and some other tropical diseases, are limited largely to the tropics, they are seen with increasing frequency in the United States among refugees, new immigrants, undocumented aliens, and travelers to the Third World. In addition, members of the U.S. Armed Forces are stationed in many areas of the world where they are exposed to such diseases (e.g., malaria was a major problem in Vietnam) and may require treatment or the prophylactic use of drugs (e.g., for malaria). Thus, the notion that the diseases have "no counterpart here and thus drugs for their control would not be subject to an IND or NDA in the United States" is not correct.

Limitations on Drugs Permitted To Be Exported under This Provision (page 15 of Explanatory Statement)

I would agree that no drug should be exported that has been banned in the United States. There should be no exception to this, including the proposal that export would be prohibited "unless FDA or USDA determines that it is nonetheless eligible for export because of particular diseases or health conditions abroad that do not exist in the United States." It is inconceivable to me that the U.S. Congress would permit the export of a drug whose use had been banned in the United States.

In addition, the provision for export to a country not on the HHS list should not be permitted for such vague reasons as "unique conditions" used in the Explanatory Statement (page 16) to describe how this section of the proposed amendment might be interpreted. The same should be said for other descriptive terms used to explain when a banned drug could be exported. The following statements/terms used in the Explanatory Statement (page 18) are subject to very broad interpretation: "Medical and agricultural conditions in many countries are different from those in the United States;" and "medical conditions abroad require the use of drugs not needed in the United States." Drugs are not banned in the U.S.A. by the FDA because they are not needed but because they are unsafe for the proposed use or because they are ineffective. The language in the proposed amendment permits broad interpretation that could permit a wide range of harmful, ineffective, and useless drugs to be exported -- hardly the goal of this legislation.

The other requirements under this section seem quite appropriate.

Section (e)(4) relates to labeling and reads as follows:

> "A change in the labeling of a drug which has been approved or licensed as described in paragraph (1) will not prevent its export to a foreign country if the change is a translation or other change made to meet the legal requirements of such country respecting information which does not relate to the safety or effectiveness of the drug."

It is my understanding that the proposed amendment provides that a drug which has an existing United States approval or license may be exported when the only change relates to the use of labeling which is translated and otherwise is changed only to comply with legal requirements of the foreign country involved respecting information not relating to safety or effectiveness. The only labeling changes allowed under this provision would be those required by the foreign country as a condition before importation is permitted. There would be no addition of indications or other claims not permitted in the United States, or any deletion or revision of warnings, contraindications, and adverse reactions that are required in the United States. Thus, the basic nature of the labeling would remain unchanged.

This section seems to correct a defect in the present law and it would make clear what changes can and cannot be made in labeling. I think this provision makes sense and I support it.

Section (e)(5) establishes procedures relating to foreign governments under the proposed amendment.

These provisions seem sound.

## Summary

In summary, the proposed amendments to Section 801 of the Food, Drug, and Cosmetic Act, adding a new subsection (e) are seriously flawed and would permit the export of drugs not approved for use in the United States under a wide variety of conditions, not only to foreign countries with effective regulatory processes but also to countries with very ineffective means to regulate the import, marketing, and labeling of drugs.

## A final note:

The proposed amendments are designed to meet a problem described as the "needless export of American technology and jobs, without any corresponding public health benefits, at a time of increasing worldwide competition." The problem is said to be "particularly acute in the emerging new area of biotechnology (page 1 of Explanatory Statement, December 5, 1983, Meade/FD&C Act version).

I agree that there is a problem, particularly for the small, relatively new biotechnology corporations that do not have either the resources to establish overseas manufacturing plants or the marketing capacity of the large, multinational pharmaceutical firms. The market for the drugs and biologics likely to be produced by these companies are in three areas: (1) the United States and Canada, (2) Europe and Japan, and (3) the Third World. According to a recent study by the United Nations Centre on Transnational Corporations (Transnational Corporations in the Pharmaceutical Industry of Developing Countries, 1983), the world drug market in developed countries in 1980 was $64.65 billion and in developing countries it was $13.8 billion, excluding China (Table 1).

## Table 1

### World Pharmaceutical Production, Consumption and Trade, 1980 ($US Million)

| | Production | | Consumption | | Trade | | |
|---|---|---|---|---|---|---|---|
| | 1980[a] | | 1980[b] | | 1980[c] | | |
| | $ million | Per cent | $ million | Per cent | Imports | Exports | Balance |
| Developed Countries | | | | | | | |
| Market economies | | | | | | | |
| North America | 18,600 | 22.1 | 14,700 | 19.6 | 1,159 | 2,150 | +991 |
| Western Europe | 27,440 | 33.0 | 25,350 | 33.8 | 6,822 | 10,620 | +3,798 |
| Others** | 11,970 | 14.3 | 12,454 | 16.6 | 1,492 | 418 | -1,074 |
| Centrally Planned Economies | | | | | | | |
| Eastern Europe | 15,960 | 19.1 | 12,150 | 16.2 | | | |
| Total Developed Countries | 73,970 | 88.5 | 64,650 | 86.2 | 9,473 | 13,187 | +3,714 |
| Developing Countries | | | | | | | |
| Africa | 470 | 0.6 | 1,730 | 2.3 | | | |
| Asia* | 4,690 | 5.6 | 5,320 | 7.1 | | | |
| Latin America | 4,400 | 5.2 | 3,300 | 4.4 | | | |
| Total Developing Countries | 9,560 | 11.5 | 10,350 | 13.8 | 4,530 | 602 | -3,928 |
| Total World Market | 83,530 | 100.0 | 75,000 | 100.0 | 14,003 | 13,789 | |

Source: (a) United Nations Industrial Development Organization (1980), Global Study of the Pharmaceutical Industry, (1D/WG.331/6).

(b) SCRIP No. 509, 28 July 1980, using the "market" as proxy for consumption.

(c) United Nations: 1980 Yearbook of International Trade Statistics.

* Excluding China

** Including Japan, Southern European Countries and Oceania.

The market in the United States and Canada, Western Europe, Japan, Southern European countries, and Oceania accounts for 70 percent of the world's market. Eastern Europe accounts for 16.2 percent, and the Third World 13.8 percent. Thus, if the economic argument is the major one, legislation should be designed to promote export of drugs manufactured in the United States to other industrialized countries. These are countries with disease patterns very similar to those in the United States.

There are a number of governmental policies in both United States and foreign nations that affect the decisions of U.S. pharmaceutical manufacturers to produce a drug in the United States or to manufacture it in another country. The Pharmaceutical Panel, Committee on Technology and International Economic and Trade Issues, National Academy of Engineering, identified four broad areas that might affect some decisions:

(1) Microeconomic factors -- including local markets, labor costs, cost of living, and quality of labor force (e.g., are they technically skilled?);

(2) Macroeconomic factors -- basically the broad international and national changes affecting the decline of the U.S. industrial sector in relation to Europe and Japan;

(3) Regulatory factors -- these are complex and are dealt with to some extent in the proposed amendment (Section 801 (e) FD&C);

(4) Artificial economic supports and restraints -- the tax and trade policies of foreign governments have advantaged foreign located firms.

These factors further complicate the issue and require careful consideration before Congress attempts to deal with the export of drugs manufactured in the United States by U.S. based firms.

VILLAGE INDEPENDENT DEMOCRATS

RESOLUTION OPPOSING EXPORT OF UNAPPROVED DRUGS

WHEREAS, the drug industry is seeking federal legislation which would allow the export of drugs which are not approved for use in the United States, and

WHEREAS, the Food, Drug and Cosmetics Act currently prohibits the export of unapproved drugs, and

WHEREAS, claims that the new legislation would create new American jobs is unfounded, and

WHEREAS, the proposal's supposed safeguards fail to give sufficient protection to international consumers, and

WHEREAS, the United Nations, the Organization of American States, and the European Parliament are working towards the tightening up of drug exports from developing countries to developing countries, and

WHEREAS, the lives and welfare of foreign consumers, the United State's reputation as a trading partner, and our position as a moral leader are at stake,

NOW THEREFORE BE IT RESOLVED, that the Village Independent Democrats opposes any legislation which would permit the export of unapproved drugs from the United States or in any other way weaken controls and restrictions on the export of drugs from the United States, and

BE IT FURTHER RESOLVED, that the Village Independent Democrats urges our leaders in Congress to oppose any such legislation.

approved by the membership: 2/23/84

Richard Hartzman
Dean Corren
: Co-chairpersons, Environmental Committee

MERYL BERMAN, *President* • CATHERINE M. ABATE, *District Leader* • ANTHONY S. HOFFMAN, *District Leader*
224 West Fourth Street, New York City 10014 • (212) CH3-6555

STATEMENT OF
RALPH NADER
WITH
JANET HATHAWAY, STAFF ATTORNEY
PUBLIC CITIZEN'S CONGRESS WATCH
AND
WILLIAM SCHULTZ, STAFF ATTORNEY
PUBLIC CITIZEN'S LITIGATION GROUP

BEFORE THE
SUBCOMMITTEE ON PATENTS, COPYRIGHTS AND TRADEMARKS,
COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

ON
S. 1306
PATENT TERM EXTENSION

TUESDAY, AUGUST 2, 1983

My name is Ralph Nader. I am accompanied by William Schultz, staff attorney at Public Citizen's Litigation Group and Janet Hathaway, staff attorney at Public Citizen's Congress Watch. Congress Watch is the legislative branch of Public Citizen, the consumer research and advocacy organization which I founded in 1971.

Public Citizen is grateful for the opportunity to testify before this committee on S. 1306, the Patent Term Restoration Act of 1983. Public Citizen has opposed attempts to extend patents for pharmaceuticals since such legislation was first proposed.

For years, proponents of this legislation have complained that they are harmed by inequities in the patent system. To this day these complaints remain unsupported by independently verifiable evidence. Proponents claim that S. 1306 "will, if enacted, be of benefit to everyone,"[1] and that the absence of patent extension "reduces incentives to invest in drug research, retards the rate of medical innovation, . . . .and raises the cost of medical care."[2] Behind these broad statements there have been all too few facts, although the pharmaceutical manufacturers undoubtedly have the relevant information about the drugs they sell. The facts that do exist argue against any extension of patent, and especially against a patent extension for the duration set by S. 1306. There is simply no justification for patent extension.

## The Patent System: How Does the Drug Industry Fare?

The patent system as it now exists was designed to do two important things. First, patents reward the inventor who receives a 17-year period to research, test, develop and exclusively market the product; second, patents require detailed disclosure about useful inventions to facilitate competition after the 17-year "head start" of the patent holder has expired.

### a. Incentives Exist to Develop New Drugs.

As to the first point, there exist strong incentives to develop new drugs. There is no question but that the first company to introduce an important new drug on the market reaps huge rewards. No one expects diazapam, the chemical patented and sold under the tradename of Valium, to be the goldmine for any of the generic companies that Valium has been for Hoffman La Roche. The first company to sell a drug has a chance to market and promote it in a way that ensures market dominance even after generic competitors emerge. Because 2 of 3 doctors[3] who have the option of prescribing generically still are prescribing the more expensive, brand-name drug, it is clear that original branded drugs will continue to outdistance generic competitors in sales. And despite the last decade's proliferation of state drug substitution laws, only 13.8 percent of all new prescriptions in 1982 were for generic drugs.[4] Finally, all accepted measures of profitability show the drug industry to be flourishing. (See appendix, pages i-viii.) These facts show the financial advanoriginal patented drugs not available in other industries.

Trademark law also favors the drug patent holder. Consumers are sometimes reluctant to accept a generic drug which, although identical in therapeutic effect, is a different color or size from the original branded drug.[7] To avoid possible liability for trademark infringements, generic drug manufacturers must make their products readily distinguishable from the original branded versions. This is one more reason that the patented drug continues to dominate the market even after patents expire.[8]

Finally, generic versions of drugs introduced after 1962 are not being promptly approved by the FDA. Approximately 125 such drugs are now off-patent, but the FDA is still at least months and probably years from implementing an expedited procedure for approving the generic equivalents.[9] To date, only 12 generics of "post-62" drugs have been approved,[10] by a procedure which can be used only for those few drugs which have had safety and efficacy test results published in professional journals.

For these reasons there is no effective competition even after patent expiration. The patent system does not--and is not designed to--treat every industry identically. But if there are inequities in patent and trademark law with respect to the pharmaceutical industry, the net effect seems to be to favor the industry.

tages received by the innovator of a new drug are of dramatic importance during the exclusive sales period and which continue to be significant after patent expiration. The patent system is fulfilling its first purpose: rewarding innovation.

b. Drug Competition Remains Sluggish Even After Patent Expiration.

With respect to pharmaceuticals, the patent system has not been as successful at achieving its second purpose, facilitating competition after the expiration of the 17-year patent period. True competition does not occur even after patent expiration because of peculiarities in the drug industry.

One might expect generics, which are often half the cost of brand-name drugs,[5] rapidly to erode the market shares of expensive branded drugs. Yet this does not occur because drugs are chosen by a third party--the physician. Doctors prescribe on the basis of confidence in, and familiarity with, branded drugs, without respect to price. Massive advertising campaigns ensure that doctors remember the name Valium, Darvon and Librium, but the respective chemical names--diazapam, propoxyphene hydrochloride and chloridiazepoxide--are eminently forgettable. Because federal law prohibits any drug from advertising the fact of approval by the Food and Drug Administration,[6] physicians and pharmacists may be wary about generics if they have no way of knowing whether they have received FDA approval. Consumers are not free to buy the prescription drugs they prefer, but are dependent upon their doctor's choices. This results in an unusual advantage to the

c. Patent Grants Guarantee 17-year Exclusivity--not Marketability.

The crux of this debate is whether or not the drug industry is being treated unfairly under the patent laws. The problem, as the drug industry sees it, is "declining effective patent life." The Pharmaceutical Manufacturers Association (PMA) argues, on the basis of very sketchy data, that since 1962 the period of marketing while under patent protection has declined. Let us put aside for a moment pressing questions about sufficiency of the evidence to establish any decline. Let us first consider the premise behind the PMA's claim.

The drug companies seem to be saying that if they now have less sales time under patent protection than in 1962, a legislative solution is in order. But why should this be so? Nowhere does the patent system assure patent holders any set period of sales. The patent grant is only a right to exclude competitors from selling the invention for up to 17 years. During these 17 competition-free years, the patent holder has the opportunity to research, test, develop and market the product. If the research, testing or development takes many years, obviously there will be little or no patent life remaining by the time the product goes to market.

d. Delays before Commercialization are Normal.

A significant delay between invention and marketing is not unique to the drug industry. For many products time has to be spent raising capital, designing and fabricating new machinery or factories, and satisfying health and safety codes, zoning ordinances or environmental impact statement requirements. It sometimes happens that important products cannot be marketed because supporting technology is not available--as in the case of the heart pacemaker, which was off-patent by the time appropriate medical developments made it possible to commercialize it.[11]

In its evaluation of the controversy about patent extension, the Office of Technology Assessment cited a study which found "the average lag time for 319 significant innovations originating in the United States and introduced between 1953 and 1973, was about 7 years."[12] A study done by L. Edward Klein, Director of Licensing for Monsanto, concludes, "[T]he full process of technological innovation usually takes upward of 10 years and a quarter of a century is not an uncommon time."[13]

The PMA is complaining about "losing" something they never had a right to--a patent-protected marketing period of a definite duration. A crucial point seems to be regularly overlooked: the patent does not guarantee a 17-year period of monopoly sales--it only excludes competitors from profiting from the invention for that time.

For over a hundred years the patent laws have set 17 years as the maximum period during which the patent holder is permitted to exclude others. When the Congress set the patent term at 17 years, it noted that a substantial portion of the 17-year term may well be spent by the patent holder in "establishing his article, in demonstrating its value, and in inducing capitalists to take hold of it."[14] The patent extension period of 17 years has been recognized since 1871 as a period which runs from the date on which the patent is granted, cannot be extended, and ordinarily will be used for R & D activities as well as marketing. There is nothing inequitable about this--it is simply less than the pharmaceutical industry wants.

The proponents of patent extension are not asking for equitable treatment under the patent law; they want a radical new form of patent. Not satisfied with patents that delay competition for 17 years after patent issuance, the proponents have been advocating a restructured patent under which a monopoly sales period of less than 17 years is considered an urgent problem requiring immediate legislative attention.

The anomaly of the situation is this: pharmaceutical manufacturers are complaining that they are not getting a full 17-years of marketing protection under patent--which neither they nor any other industry has been entitled to under the patent system as it has existed for over a hundred years.

## II. The Drug Industry is Responsible for Most of the Drug Lag.

Peter Hutt, counsel for the PMA, in 1982 told a Congressional hearing that it takes from 7 to 13 years to test and approve drugs.[15] If this is true, this delay is not attributable to the Food and Drug Administration (FDA). The mean period between filing a New Drug Application (NDA) and receiving FDA approval in

1982 was less than two years--only 22.4 months. After time lost due to errors, omissions and delays of the drug company is deducted, the average time actually spent by the FDA in 1982 on drug approval was even less--16.8 months.[16] And for drugs that are determined by the FDA to be important or modest therapeutic advances, the mean FDA approval time recently has been less than a year.[17]

The drug companies would like us to believe the FDA is holding them back. In reality, drug companies often decide for commercial reasons to delay tests or to abandon development of drugs which do not promise Valium-type returns. Furthermore, time is wasted when companies do shoddy tests or submit incomplete data to the FDA. The Wall Street Journal recently quoted the president of Smith Labs as faulting some drug companies for their lack of diligence.

> Dr. [W. Scott] Smith, who specialized in clinical trials at Searle, says many drugs don't need seven or eight years and tens of millions of dollars to pass regulatory muster, as some companies claim. "The industry has to take a good deal of the rap for drug lag, because many applications are incompetent, poorly done and don't prove anything," he says. . . .[I]n the rush to market, he says, diligent clinical work is sometimes neglected.[18]

## III. The Period of Patent Extension in S. 1306 Rewards Industry Incompetence.

The audacity of requesting a specially extended patent for the pharmaceutical industry is only exceeded by requesting that the extension cover the entire period of time spent in testing the drug.

S. 1306 states that the patent term for products subject to regulatory review shall be extended for a time equal to the "regulatory review period."[19] The bill defines the regulatory review period for drugs as beginning when the patent holder or licensee

> (i) initiates a major health or environmental effects test. . .; or
>
> (ii) claims an exemption for investigation . . .; or
>
> (iii) submits an application or petition with respect to such product . . .[20]

and ending when the product is approved and commercial marketing is permitted. This extension is not limited to the actual period of FDA review and is not exclusive of the time wasted by the companies because of incompetence or decisions not to expedite the product to market. Such an extension period is not arguably related to the pre-marketing review at the FDA. It would reward dilatory, shoddy work by pharmaceutical companies by compensation for up to seven years of lost patent time.

## IV. Proponents Have Never Adequately Documented Claims of Diminishing Patent Life or Reduced Innovation.

It is incumbent on those who seek radical legislative change to show that such change is necessary and in society's best interests. The pharmaceutical industry has never met their burden of proof on patent extension.

Only after telling a House Subcommittee on Investigations and Oversight that detailed drug approval information would only confuse the Congress,[21] did proponents submit requested data. Unfortunately, the data released was for one year only, and was incomplete and misleading.[22] The patent extension proponents asserted that the patent life remaining on drugs approved in 1980 averaged 7 1/2 years. There is no evidence that 1980 was typical, nor is it shown that a longer exclusive sales period was common earlier. Furthermore, only the first patent on each drug was mentioned, although several of these products had patents extended by later approvals of special use or method patents.[23]

This sketchy data reveals another weakness in the case for patent extension. Extension proponents point to five of the twelve drugs approved in 1980 which then had less than nine remaining years of patent protection.[24] They fail to note that in the case of all of these drugs, there were significant industry-caused delays after patents were issued before clinical testing of the drug was commenced.[25] The three drugs with the least patent life remaining upon approval had remained unstudied by the patent holders for seven, nine and fifteen years after patent issuance. Erosion of patent time in these instances was clearly attributable to the industry.

## V. Patent Extension Is A Wealth Transfer From Consumers To Major Drug Companies.

The technicalities of the patent debate may occasionally obscure the fact that this is a health care issue. Even without patent-extension, since 1981 prices increased 32% on name-brand drugs dispensed by the American Association of Retired Persons' pharmacy service.[26] By keeping generics off the market for longer, S. 1306 will force consumers to finance increased profits for the drug industry.

a. The drug manufacturers already have more than adequate incentives to conduct R&D.

The drug companies argue that without additional revenues through patent term extension, the incentives to do research and development of new pharmaceuticals will decline. Unfortunately, they have not offered evidence to support the claim that incentives for innovation have diminished. In fact, R&D has increased, even when adjusted for inflation. Another measure of innovation, the number of new molecular entities approved by the Food and Drug Administration, also shows no reduction since the 1960s. The number of drug approvals FDA considered important therapeutic gains has remained constant for the past 25 years, at about 3 annually.

There are currently numerous and sufficient incentives for innovation in the pharmaceutical industry. Certainly a powerful reason to invest is the industry's enviable 16.9 return on investment, second only to the banking industry last year. The National Science Foundation, Division of Policy Research and Analysis, estimated the total value of the ERTA 25% R&D tax credit at $57 million for the chemical industry and $45 million for the drug industry, 3rd and 4th of all industries benefitting from the credit, for 1981 alone. Tax deductions are also permitted for most R&D, and a special 50% tax credit is available for research on orphan drugs. Thus it is understandable that Dow and DuPont are diversifying into the pharmaceutical industry; this is hardly an area of declining investment incentives.

b. S. 1306 would increase profits instead of encouraging innovation.

But even if there were a need to encourage R&D in this industry, patent extension legislation would be an inapt method. This legislation would not induce new innovation. Instead, should this bill pass, it would merely increase profits across the board for new drugs. The Office of Technology Assessment's 1981 report concludes that there is no evidence that additional revenues derived from patent extension would increase the percentage of R&D activity. Indeed, because patent holders would be insulated from competition for longer, there is a possiblity that innovation would decline because of a lessened demand for ingenuity to retain market dominance.

c. The high cost of prescription drugs will become exorbitant if generic competition is restricted still further.

American consumers cannot afford to give the pharmaceutical industry greater profits merely because the industry would like it. Drug prices currently are rising at about triple the Consumer Price Index.[27] Even now many elderly and ill Americans are paying from 42 to 74 percent more for their prescriptions than they would if their doctors would prescribe generically, according to the Federal Trade Commission.[28]

The Pharmaceutical Manufacturers Association says, "[T]his legislation would result in lower prices to consumers."[29] No attempts are made to reconcile this claim with the PMA's assertion that additional revenues for drug R & D will flow from patent extension. As usual, no evidence for this claim is offered beyond the bare assertion that "competition from new therapies exerts a downward pressure" on drug prices.[30] An evaluation of three drug categories within which a limited degree of substitutability exists gives no support for this claim. (See appendix, pp. x-xii for relative costs of beta blockers, tranquilizers and non-steroidal anti-inflammatory drugs.) No "downward pressure" appears to have occurred when new drugs in these therapeutic classes were introduced. Rather, in most instances the new drug was introduced at a premium price, higher than most or all of the drugs previously available. The price of cheaper drugs then rose rapidly in the following years, keeping pace with the cost of expensive "competitors." These figures challenge the PMA to demonstrate, if they can, how further restricting generic competition could possibly lower drug prices.

## VI. Questions Remain for Proponents of Patent Extension.

I will conclude by reiterating that the industry which promotes patent extension has not provided Congress with the relevant data. These crucial questions remain unanswered:

1. When were patent applications filed for each drug approved since 1962?

2. When were patents approved for each drug?

3. When was a request for investigational exemption (IND) filed for each new drug?

4. When did the sponsoring pharmaceutical company file a New Drug Application (NDA) with the Food and Drug Administration for each drug?

5. When did the FDA approve each new drug for marketing?

6. What portion of the FDA approval time was attributable to industry-caused delays, i.e. inadequate documentation requiring further testing and resubmission, withdrawal of application, etc.?

7. What evidence is there for price competition between drugs within the same therapeutic category resulting in overall lower prescription drug prices for consumers?

The Committee should insist that answers be provided before this legislation receives further attention. That proponents of this legislation are reluctant to reveal the most relevant facts can only raise doubts about how well the data supports their claims.

Thank you. We will be happy to answer questions.

## NOTES

1. Testimony of Lewis A. Engman, President, Pharmaceutical Manufacturers Association, Before the Senate Judiciary Committee, 6/22/83,p. 9.

2 Pharmaceutical Manufacturers Association, "Lost Patent Life, Lost Medicines and the Rising Cost of Health Care," 1983.

3 Testimony of William Haddad, President, Generic Pharmaceutical Industry Association before the Senate Judiciary Committee, 6/22/83, p.3.

4 "Rxs Jump 5.3% Spurred by a 7.2% Rise in Refills," *Pharmacy Times*, p. 29, April 1983.

5 American Association of Retired Persons' Pharmacy Service, "Top 50 Prescription Drug Prices with Generic Equivalents," October 1, 1981; July 1982; and February 1983. In 1981, the mean branded drug price ($8.16) was twice the mean generic price ($4.07); in 1982, branded drugs averaged 2.3 times the generic price ($9.95 for branded; $4.32 for generics); and in 1983, the cost of brand-names averaged slightly over twice the cost of generics ($10.81 to 5.27).

6 Section 301(1) of the Federal Food, Drug and Cosmetic Act, as amended, codified at 21 U.S.C. §331 (1).

7 If a generic manufacturer produces a drug in the same size, shape and color as the original drug, they can be held liable under section 32 of the Trademark Act of 1946 (Lanham Act), 60 Stat. 427, 15 U.S.C. §1051 et. seq., if the use of the look-alike capsules induces pharmacists to substitute the generic drug for the branded product and to mislabel the generic as the higher-priced drug. *See Inwood Laboratories v. Ives Laboratories*, _US_,72 L. Ed. 606 (1982). "[I]f a manufacturer or distributor intentionally induces another to infringe a trademark, or if it continues to supply its product to one whom it knows is engaging in trademark infringement, the manufacturer or distributor is contributorially responsible for any harm done as a result of the deceit." Id., p. 615.

8 See appendix at p. xiii. These four off-patent drugs continued to have market shares near 90% even after many years.

9 Testimony of Dr. Mark Novitch, Deputy Commissioner, Food and Drug Administration, before House Subcommittee on Health & Environment, July 25, 1983.

10 Conversation on 7/28/83 with Mr. Don Hare, Special Assistant to Mr. Gene Knapp, Associate Director for Drug, Monographs, Bureau of Drugs, FDA.

11 Testimony of Norman Balmer, Project Director, Patent Term Extension Project, U.S. Congressional Office of Technology Assessment, Hearing before the House Subcommittee on Courts, Civil Liberties and the Administration of Justice, July 22, 1981, p. 61-62.

12 Gellman Research Associates, "Indicators of International Trends in Technological Innovation," Jenkintown, PA, April 1976, cited at p. 120 OTA, *Patent Term Extension & the Pharmaceutical Industry* (1981).

13 L. Edward Klein, "Invention to Commercialization," *Nouvelles-Journal of the Licensing Executive Society*, Vol. XII, #1, pp. 12-16 (March 1977).

14 Congressman Orestes Cleveland, Congressional debate on H.R. 1714, *The Congressional Globe* 2856 (April 20, 1870).

15 Peter Hutt, counsel, Pharmaceutical Manufacturers Association, Hearing Before the House Subcommittee on Investigations and Oversight, Committee on Science and Technology, February 4, 1982, page 156.

16 See Appendix, p. ix.

17 For FY 1981, 4th Quarter, 10.5 months; FY 1982, 1st Quarter, 10.3 months and FY 1982, 2nd Quarter, 10.5 months. *New Drug Evaluation Project: Briefing Book*; Department of Health & Human Services, Food & Drug Administration, Office of New Drug Evaluation, May 1982, Table 1A.

18 "Struggle for Approval of Back Drug Shows Frustrations of FDA Review," *Wall Street Journal*, April 25, 1983.

19 Section 155(a)(1).

20 Section 155(c)(3).

21 Peter Hutt, counsel, Pharmaceutical Manufacturers Association, responding to requests for data for all drugs approved by the FDA since 1962, including: the date of patent filing, the date of patent approval, the filing date for Investigational New Drug status, the filing date for New Drug Approval and the date FDA approved New Drug Approval status. Hearing before the Subcommittee on Investigations & Oversight, Committee on Science and Technology, February 4, 1982, p. 198-200.

22 See Appendix p.xiv, where the chart on the 1980 approved drugs is reproduced with annotations.

23 Rep. Albert Gore, Jr., "Patent Term Extension: An Expensive and Unnecessary Giveaway," Health Affairs, Spring 1982, p. 32.

24 See Appendix at p. xiv.

25 Clinical testing occurs after Investigational New Drug (IND) exemption is approved.

26 On October 31, 1981 the average cost for the top 50 brand name prescription drugs at AARP's pharmacy (in quantities of 100) was $8.16; in July 1982 the average cost was $9.95, and in February 1983 the average cost was $10.81. (Source: American Association of Retired Persons Pharmacy Service, *op. cit.*)

27 *Id.*

28 Federal Trade Commission, "Drug Product Selection," Washington, D.C., 1979; cited by Office of Technology Assessment, *Patent-Term Extension and the Pharmaceutical Industry*, p. 32, August 1981.

29 Testimony of Lewis A. Engman, 6/22/83, *op. cit.*, p. 11.

30 *Id.*, p. 11-12.

(NOTE: In the interest of economy, the appendix accompanying this statement was retained in the files of the committee where it may be researched upon request.)

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I WANT YOU TO KNOW THAT THE SERVICE EMPLOYEES INTERNATIONAL UNION, WHICH REPRESENTS THOUSANDS OF MEMBERS BENEFITING FROM GENERIC DRUGS, IS IN FAVOR OF THE ANDA PATENT TERM COMPROMISE BILL. WE HOPE THAT YOU WILL ACT SPEEDILY AND FAVORABLY ON THIS LEGISLATION. IT IS THE PRODUCT OF A HARD-FOUGHT COMPROMISE THAT WE SUPPORT.

SINCERELY,

JOHN J. SWEENEY
SEIU INTERNATIONAL PRESIDENT

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VICE PRESIDENTS

BILL CASSTEVENS • DONALD F. EPHLIN • ODESSA KOMER • MARC STEPP • ROBERT WHITE • STEPHEN P. YOKICH

IN REPLY REFER TO
1757 N STREET, N.W.
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June 22, 1984

The Honorable Orrin G. Hatch
Chairman, Committee on Labor & Human Resources
U. S. Senate
Washington, D. C. 20510

Dear Mr. Chairman:

It is our understanding that the Senate Labor and Human Resources Committee will soon be considering the Abbreviated New Drug Applications (ANDA) - Patent Term Extension legislation, which was recently introduced by Senators Hatch, Mathias and Kennedy (S. 2748). The UAW believes this bill represents a reasonable compromise, which will provide significant benefits both to consumers and to the drug manufacturers. The UAW therefore urges you to support this important, bipartisan legislation.

The legislation would accomplish two basic objectives. First, the ANDA provisions would extend the procedures which are currently used to approve generic copies of pre-1962 drugs to post-1962 drugs. Currently there are no procedures for approving generic copies of post-1962 drugs. This has greatly inhibited the development of generic equivalents for many of the most popular drugs on the market. Under the proposed legislation, generic copies could immediately be developed on over 150 drugs that have been approved since 1962, at a savings to consumers of approximately $1 billion over twelve years.

The UAW has long been a supporter of measures which would increase the availability of generic drugs. We believe the ANDA provisions would expand the availability of generics, and thus provide substantial saving to all consumers, and especially to the elderly who often must spend a large portion of their limited resources on drugs.

Secondly, the patent term extension provisions would extend the patents which manufacturers have on various drugs. However, the bill places outer limits on the permissible patent extensions, as well as the total period of time a drug may be under patent. With these safeguards, the legislation in our judgment strikes a reasonable balance between the needs of the drugs manufacturers and consumers.

The UAW believes the ANDA-Patent Term Extension legislation represents a fair compromise, which deserves your wholehearted support. At the same time, we urge you to oppose any weakening amendments, which might undermine this carefully constructed compromise.

Sincerely,

Dick Warden

Dick Warden
Legislative Director

DW:njk
opeiu494

Senator Hawkins. Thank you for your participation.

[Whereupon, at 12:38 p.m., the hearing was adjourned.]

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